SUSTAINABLE DESIGN ASSESSMENT

17-19 BLOOMFIELD AVENUE, MARIBYRNONG 3032

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1 INTRODUCTION

The following Sustainable Design Assessment (SDA) has been prepared by Odin Solutions to provide an overall and a wider approach to assessing the sustainability of the proposed development. It offers an overview from various perspectives (energy, material etc.) for the relevant council officer to assess.

This development includes a wide range of holistic sustainability measures which have been carefully integrated into the design of the development so that the residents will have the opportunity to reduce their ecological footprint without compromising their quality of life.

1.1 STATUTORY FRAMEWORK

Maribyrnong City Council encourages the inclusion of Environmentally Sustainable Development (ESD) initiatives within the design process of new developments, which will result in more sustainable buildings within the community.

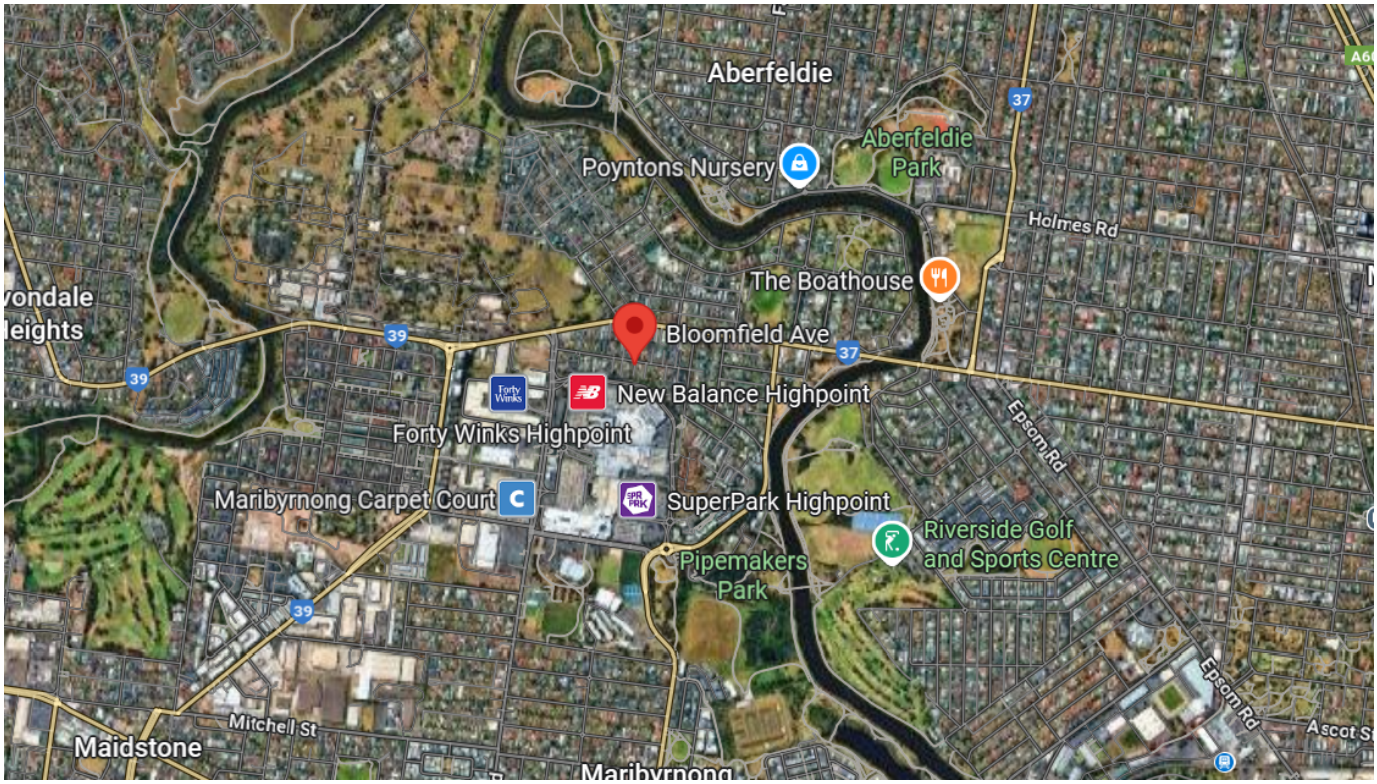
Odin Solutions have been engaged to undertake a Sustainable Design Assessment for the proposed townhouses located at 17-19 Bloomfield avenue, Maribyrnong.

The SDA report has identified the following key categories to be addressed;

- Water Resources
- Energy Performance
- Stormwater Management
- Indoor Environment Quality
- Construction, Building & Waste Management
- Building Materials
- Transport and
- Urban Ecology

1.2 SITE AND DEVELOPMENT DESCRIPTION

The subject property is located within Maribyrnong, a suburb within the domains of Maribyrnong City Council. The site measures roughly 1857m^2 whereby an existing single storey dwelling is present on each lot. The proposed development will consist of twelve double storey townhouses.



Aerial view of the proposed development

2 ESD ASSESSMENT TOOLS

There are a number of calculators and modelling programs available to help assess proposed developments against benchmarks set by the Victorian State Government, City Councils and the Building Code of Australia. This report has utilised the Built Environment Sustainability Scorecard (BESS) system which covers the overall sustainability of the project, FirstRate5, which assesses the thermal performance of the building fabric of residential portion of the development (Class 2) and STORM, which analyses stormwater treatment onsite.

2.1 BUILT ENVIRONMENT SUSTAINABILITY SCORECARD (BESS)

All information and calculations necessary to produce the SDA report are provided by using the Built Environment Sustainability Scorecard (BESS). The BESS tool assesses energy and water efficiency, thermal comfort, and overall environmental sustainability performance of new buildings or alterations.

There are four are four mandatory categories with minimum score: Indoor Environment Quality (IEQ), Energy, Water, and Stormwater. The final BESS overall score is determined by the individual category scores:

- 'Best Practice' is defined within BESS as an overall score of 50% or above
- 'Excellence' is defined within BESS as an overall score of 70%.

2.2 STORM

Stormwater Treatment Objective – Relative Measure (STORM) was developed by Melbourne Water to simplify the analysis of stormwater treatment methods within a development. The calculator assesses Water Sensitive Urban Design (WSUD) measures on project sites and delivers a percentage result, determining whether best practice targets have been achieved. A score of 100% or higher means the treatment features meet all objectives.

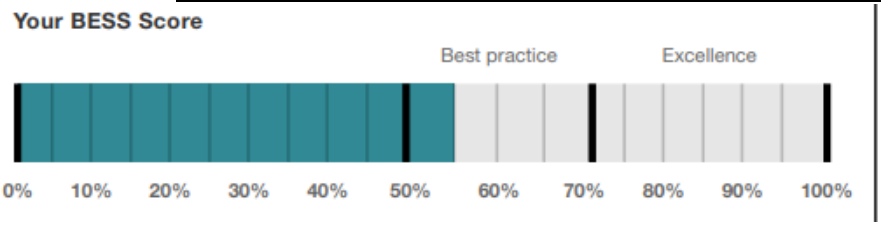
2.3 FIRSTRATE5

The thermal performance of dwellings is assessed using FirstRate5, an energy modelling software programme that rates dwellings on a 10-star scale. Using Accurate (a nationally recognised energy benchmarking tool) to rate dwellings based on climate zone, building orientation, construction materials and building sealing. Victorian townhouses are required to achieve a minimum 7-star rating to comply with the NCC.

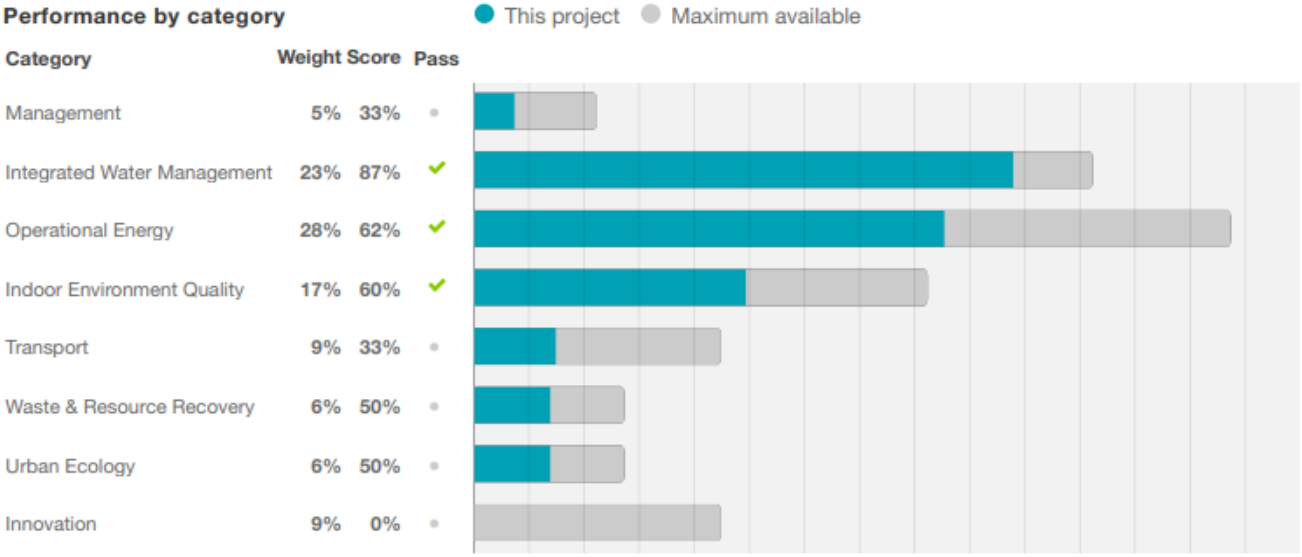
3 ESD ACHIEVEMENTS

The following tables outline the scores achieved in each assessment tool used. This development has achieved a 'Pass' score in each.

BUILT ENVIRONMENT SUSTAINABILITY SCORECARD (BESS)			
% of Total	**Category**	**Required Score**	**Project Score**
5%	Management	0%	33%
23%	Integrated Water	50%	87%
28%	Energy	50%	62%
17%	IEQ	50%	60%
9%	Transport	0%	33%
6%	Waste	0%	50%
6%	Urban Ecology	0%	50%
9%	Innovation	0%	0%
	Final BESS Score	**50%**	**56%**



56%



STORM RATINGS		
	Required Score	Project Score
Storm Score	100%	118%

PRELIMINARY AVERAGE 7-STAR ENERGY RATING RESULT	
Average for Development	7.1

4 ESD INITIATIVES & IMPLEMENTATION

4.1 MANAGEMENT

DESIGN REQUIREMENT	IMPLEMENTATION STAGE	RESPONSIBILITY
Thermal Performance Modelling		
Preliminary NatHERS ratings have been completed for each thermally unique dwelling. Additional information is provided in Appendix A of this SDA report.	Planning Stage	Architect/ ESD Consultant

4.2 INTEGRATED WATER MANAGEMENT

DESIGN REQUIREMENT	IMPLEMENTATION STAGE	RESPONSIBILITY
Potable Water Use Reduction (Interior Use)		
To improve water efficiency, efficient fixtures and fittings will be installed to ensure a reduction in the total water consumption at the premises. This will be achieved by installing appliances, fixtures and fittings are to meet the following water efficiency targets: - Showerheads: 4 Star WELS (>=6.0 but <=7.5) - Kitchen Taps: >5 Star WELS rating - Bathroom Taps: >5 Star WELS rating - WC: >4 Star WELS rating	Planning Stage	Architect/ ESD Consultant
Rainwater Collection & Reuse		
Reducing potable (mains) water consumption through a rainwater collection and re-use scheme ensures cost savings and the efficient use of water. The proposed dwellings will contain a 12 x 2000-litre rainwater tank to drain a minimum 69m^2 of rainwater for reuse. The non-potable water source to be connected to the toilets and washing machine stops of each dwelling. Additional information is provided in the Water Sensitive Urban Design (WSUD) response & Appendix C.	Planning Stage	Architect/ ESD Consultant
Water Efficient Landscaping		
Water efficiency principals will be implemented in the landscaping area. This will be achieved by planting low water use plant selections.	Planning Stage	Architect/ ESD Consultant

4.3 OPERATIONAL ENERGY

DESIGN REQUIREMENT	IMPLEMENTATION STAGE	RESPONSIBILITY
Thermal Performance Rating – Residential		
The average 7-Star Energy Rating for this development is 7.1-Stars, exceeding the NCC minimum requirement of 7.0 stars. This will be achieved through the installation of double glazed windows, orientation, and as well as excellent passive designs.	Planning Stage	Architect/ ESD Consultant
Heating & Cooling		
High efficiency refrigerative space air conditioning systems will be installed, giving occupants the ability to completely switch off the air conditioning when not required. All A/C units are to meet the following requirement: - Minimum 4 stars or within 1 star of this; whichever option is greater and/or available at planning stage.	Planning Stage	Mechanical Engineer
Hot Water System		
Electric instantaneous hot water systems will be installed into this development.	Planning Stage	Architect
Appliances		
Appliances are a significant source of greenhouse gas emissions in a development. Every effort should be made to minimise the energy consumption of these items. Where appliances are provided in a dwelling, they will be selected to be within one star of the best available in its product range, using the Energy Star rating system.	Planning Stage	Architect
Clothes Drying		
Each dwelling will have a private outdoor clothesline. This will help reduce annual energy consumption.	Planning Stage	Architect
Lighting		
Internal lighting achieves a maximum illumination power density of 4W/sqm or less throughout the development. Common area external lighting will be controlled by daylight sensors, motion sensors and/or time clocks.	Planning Stage	Architect
Solar Photovoltaic		
A minimum system size (lesser of inverter and panel capacity) of 2.0kW peak to be installed for each dwelling.	Planning Stage	Architect/ ESD Consultant

4.4 IEQ – INDOOR ENVIRONMENT QUALITY

DESIGN REQUIREMENT	IMPLEMENTATION STAGE	RESPONSIBILITY
Daylight Access		
All bedrooms/ living spaces incorporate an external window, providing high level of amenity and energy efficiency through design for natural light.	Planning Stage	Architect/ ESD Consultant
Double Glazing		
Double glazed windows (or better) will be installed to all living areas and bedrooms to provide comfortable indoor spaces and reduce energy needed for heating and cooling.	Planning Stage	Architect/ ESD Consultant

4.5 SUSTAINABLE BUILDING MATERIALS

The choice of building materials for a project can have a significant impact on the projects overall environmental footprint. An overarching objective to select materials based on their probably environmental footprint has been implemented on this project. Materials will be selected based on the following attributes:

DESIGN REQUIREMENT	IMPLEMENTATION STAGE	RESPONSIBILITY
Embodied Energy		
Total embodied energy is to be considered when selecting materials. High embodied energy materials, such as concrete, aluminium and zinc are to be avoided where possible. When these materials are necessary, suppliers that provide percentage of recycled materials to be selected.	Design Stage	Architect
Biodiversity and Habitat Destruction		
All timber used for the project must be from sustainably managed sources. This must be demonstrated through appropriate certification schemes, such as PEFC or FSC.	Design Stage	Architect
End Of Life		
Consideration must be given to how materials may be disposed of. Recyclable materials must be chosen wherever possible. Preference must be given to suppliers with end-of-life recycling schemes.	Design Stage	Architect
Toxicity		
Materials which have health risks during manufacture and installation must be avoided where possible. Low VOC products, E0 or E1 wood products, best practice PVC should be selected wherever practical.	Design Stage	Architect
Durability		
Consideration must be given to the life expectancy of materials. Durable materials should be specified for relevant applications.	Design Stage	Architect
Maintenance		
Materials that are easily maintained must be specified. This is likely to increase the life expectancy of the material. Materials that require cleaning agents that have environmental impacts be avoided.	Design Stage	Architect

Material initiatives help to reduce the use of virgin materials, reduce waste and promote the use of materials with low embodied energy and environmental impacts.

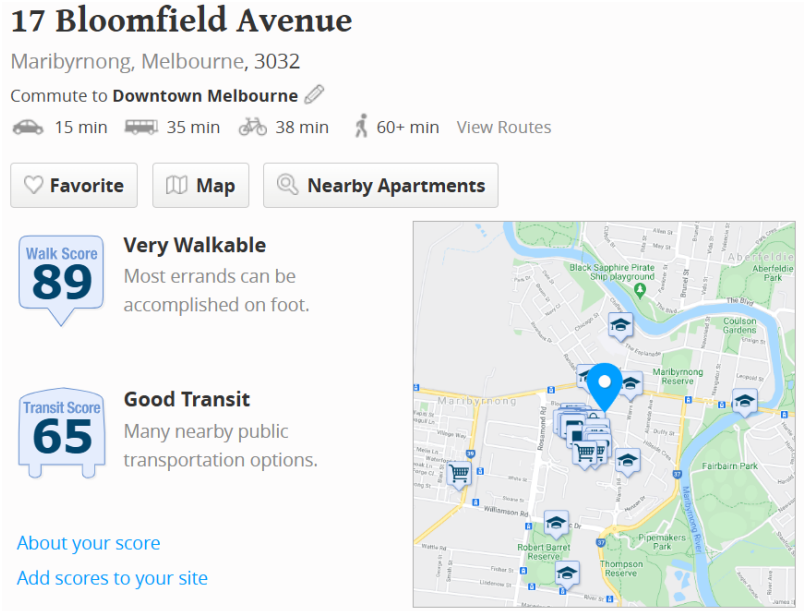
DESIGN REQUIREMENT	IMPLEMENTATION STAGE	RESPONSIBILITY
Insulation Product		
All bulk thermal insulation used in the project will contain a minimum of 20% post-consumer recycled material.	Design Stage	Builder
Concrete		
A minimum of 50% of the concrete mix will contain recycled water (rainwater or purchased recycled water).	Design Stage	Builder
Steel		
Wherever possible, steel for the development will be sourced from a Responsible Steel Maker. Reinforcing steel for the project will be manufactured using energy reducing processes commonly used by large manufactures such as Bluescope or OneSteel.	Design Stage	Builder
Timber		
Wherever possible, timber used in the development will be Forest Stewardship Council (FSC) or Program for the Endorsement of Forest Certification (PEFC) certified or recycled/ reused.	Design Stage	Builder
Frames and Finishes		
Where possible, components of roofing, ceiling, wall, cladding and framing materials, classified as “environmentally innovative” will be specified.	Design Stage	Builder
Non-toxic Durable Materials		
Materials used in the development will have longer warranties (>7 years desired) were possible and will be non-toxic.	Design Stage	Builder
Sustainable Materials		
Sustainable materials such as low VOC paints for internal walls to be used.	Design Stage	Builder

MAX TVOC CONTENT LIMITS FOR PAINTS, VARNISHES AND PROTECTIVE COATINGS	
Carpet TVOC Emissions Limits	**Max TVOC EmissionLimit (mg/m2 per hour)**
Total VOC Limit	0.5
4-PC (4-Phenylcyclohexene)	0.05
Max TVOC Content Limits for Adhesives and Sealants	
Product Type	**Max TVOC Content (g/l of product)**
Indoor carpet adhesive	Latex primer for galvanized iron and zincalume
Carpet pad adhesive	Interior latex undercoat
Wood flooring and Laminate adhesive	Interior sealer
Rubber flooring adhesive	One and two pack performance coatings for Floors
Sub-floor adhesive	Any solvent-based coatings whose purpose is not covered in table
Ceramic tile adhesive	65
Cove base adhesive	50
Dry Wall and Panel adhesive	50
Multipurpose construction adhesive	70
Structural glazing adhesive	100
Architectural sealants	250
Max TVOC Content Limits for Paints, Varnishes and Protective Coatings	
Walls and ceilings – interior semi-gloss	**16**
Walls and ceilings – interior low sheen	**16**
Walls and ceilings – interior flat washable	**16**
Ceilings – interior flat	**14**
Trim – gloss, semi-gloss, satin, varnishes and wood stains	**75**
Timber and binding primers	**30**
Latex primer for galvanized iron and zincalume	**60**
Interior latex undercoat	**65**
Interior sealer	**65**
One and two pack performance coatings for Floors	**140**
Any solvent-based coatings whose purpose is not covered in table	**200**

4.6 TRANSPORT

DESIGN REQUIREMENT	IMPLEMENTATION STAGE	RESPONSIBILITY
Walkable Location		
The walkability for the location has been assessed by walkscore.com. This site measures the walkability of any location in the world based on the distance to nearby amenities and pedestrian friendliness. The location is given a score out of a maximum of 100. This site achieves a walk score of 89, which is classed as 'Very Walkable' – most errands can be accomplished on foot.		
Transit Location		
This site achieves a transit score of 65, which is classed as 'Good Transit' – many nearby public transportation options. This development is within a short drive (less than 10 minutes) to Moonee Ponds train station. There also is a nearby bus stop for residents to commute between Essendon train station and Highpoint shopping centre (Route 468).		
Bicycle Parking		
Each unit will contain 'Towel Rail' bike racks for occupant use, installed on the long side of each garage wall.	Planning Stage	Architect/ ESD Consultant

Parking rail	Spatial requirements	
Towel Rail A space-effective solution for parking single bikes against a wall. Useful for short term parking, accommodates all types and sizes of bicycles.	• wall mounted • recommended rail spacing centre to centre 1.8-2m. • mount approximately 0.7m above the floor • bicycles will extend the width of a handlebar (up to 0.7m) from the wall	



4.7 WASTE & RESOURCE RECOVERY

DESIGN REQUIREMENT	IMPLEMENTATION STAGE	RESPONSIBILITY
Food & Garden Waste		
Facilities provided for on-site management of food and garden waste.	Planning Stage	Architect/ ESD Consultant
Sorting of Recyclable/ General Waste		
Separate receptacles will be integrated into the kitchen cabinetry for sorting recyclable from general rubbish. This will promote occupants to recycle more and make the practice easier.	Planning Stage	Architect/ ESD Consultant
Construction Waste		
A commitment to a minimum 70% reuse/ recycling of construction and demolition waste will be made.	Construction Stage	Builder

4.8 URBAN ECOLOGY

Development in existing urban areas helps reduce the need for green field development and the associated environmental impacts, such as car dependency, increased need for infrastructure and displacement of agricultural land.

DESIGN REQUIREMENT	IMPLEMENTATION STAGE	RESPONSIBILITY
Vegetation		
35% of the site is covered with vegetation, as expressed as a percentage of the total site area. 30% or more vegetated area gains a 100% BESS score.	Planning Stage	Architect/ ESD Consultant

5 WATER SENSITIVE URBAN DESIGN (WSUD) RESPONSE

Rainwater will be collected from each roof area and stored in separate 2000L rainwater tanks located in the backyards of each dwelling. The rainwater will be used to flush toilets and be connected to the washing machine stops throughout the development.

Melbourne Water recommends that proposed developments provide a Water Sensitive Urban Design Response with the following objectives (as outlined in Clause 22.18 Stormwater Treatment Policy):

- To improve stormwater discharge quality:
    - Suspended Solids – 80% retention of typical urban annual load
    - Total Nitrogen – 45% retention of typical urban annual load
    - Total Phosphorus – 45% retention of typical urban annual load
    - Litter – 70% retention of typical urban annual load
- To promote stormwater re-use
- To mitigate the detrimental effect of development on downstream waterways
- To reintegrate urban water into the landscape to facilitate benefits such as microclimate cooling, local habitat and provision of attractive spaces for community use and well-being
- To minimise peak stormwater flows and stormwater pollutants.

A development is required to demonstrate that it meets the objectives of the clause by either:

- Meeting a 100% or higher rating on the STORM rating tool; or
- Meeting the required discharge quality using the MUSIC rating tool

Additionally, adequate maintenance and management procedures are required to ensure the stormwater treatment/ reuse measures work as intended.

In the case of a charged pipe system, the pipes will not be running underneath the slab and the stakeholders (builder/ developer/ architect) will be required to explicitly acknowledge the solution and have the capacity to install it.

5.2 STORM ASSESSMENT

A Melbourne Water STORM assessment on the property has been undertaken in order to demonstrate compliance with best practice stormwater treatment objectives as set out in the Urban Stormwater Best Practice Environmental Management Guidelines (CSIRO, 1997).

Stormwater Treatment Objective – Relative Measure (STORM) was developed by Melbourne Water to simplify the analysis of stormwater treatment methods within a development. The calculator assesses Water Sensitive Urban Design (WSUD) measures on project sites and delivers a percentage result, determining whether best practice targets have been achieved. A score of 100% or higher means the treatment features meet all objectives.

STORM Rating Report

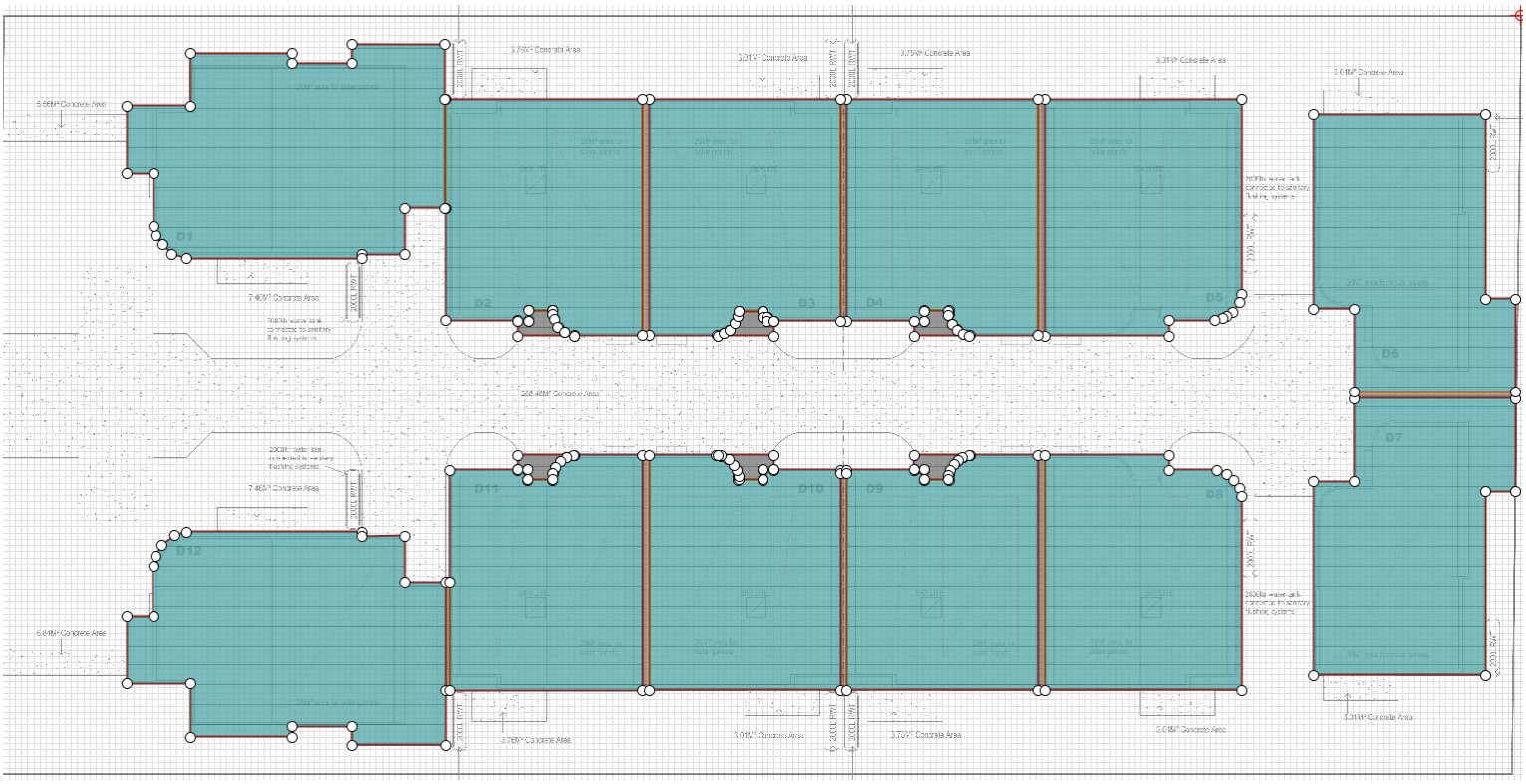
TransactionID: 0
Municipality: MARIBYRNONG
Rainfall Station: MARIBYRNONG
Address: 17-19 Bloomfield avenue

Maribyrnong
VIC 3032
Assessor: Odin Solutions
Development Type: Residential - Multiunit
Allotment Site (m2): 1,857.92
STORM Rating %: 118

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Dwellings 1-3 RWT	234.40	Rainwater Tank	6,000.00	10	164.80	80.80
Dwellings 4-6 RWT	219.00	Rainwater Tank	6,000.00	9	163.00	83.40
Dwellings 7-9 RWT	219.00	Rainwater Tank	6,000.00	9	163.00	83.40
Dwellings 10-12 RWT	234.40	Rainwater Tank	6,000.00	10	164.80	80.80
Driveway	288.48	None	0.00	0	0.00	0.00
Front/ Rear Concrete	59.40	None	0.00	0	0.00	0.00
Untreated Roofing Areas	8.65	None	0.00	0	0.00	0.00

Date Generated: 21-Jul-2025 Program Version: 1.0.0

RAINWATER CATCHMENT AREAS



LEGEND

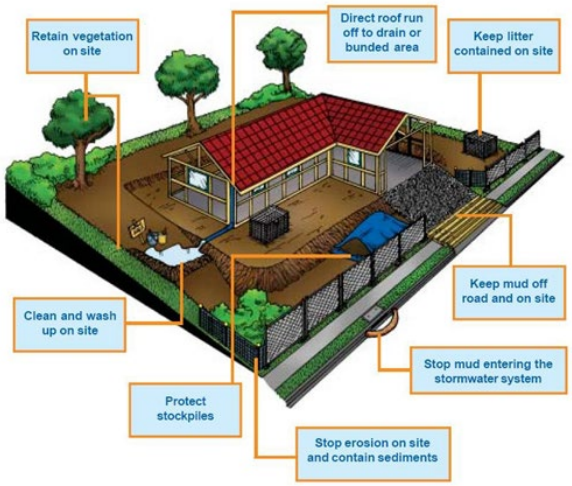
	DESCRIPTION	QUANTITY	UNIT
	DWELLINGS 1-3 RWT	234.40	m2
	DWELLINGS 4-6 RWT	219.00	m2
	DWELLINGS 7-9 RWT	219.00	m2
	DWELLINGS 10-12 RWT	234.40	m2
	DRIVEWAY	288.48	m2
	FRONT/REAR CONCRETE	59.40	m2
	UNTREATED ROOFING AREAS	8.65	m2

5.3 Construction Site Management Plan

The following requirements are to be met during onsite works to prevent excessive pollutants entering the local waterways.

- Temporary drains are to be installed to minimise overland water flows and prevent erosion, especially in areas where water is likely to pool;
- Temporary silt fences are to be installed on the lower end of the site to prevent excessive sedimentation from entering the stormwater system;
- Temporary side entry filters to be installed to council stormwater pits to prevent sediment entering the stormwater system at the kerb inlet;
- Stockpiles to be located away from the predominant overland stormwater pathway;
- All site litter to be collected and placed in bins (covered if appropriate) so that it cannot end up in the stormwater systems; and
- Waste bins to be provided onsite for workers.

The builder will follow the process outlined in "Keeping Our Stormwater Clean - A Builder's Guide".



Copies of “Keeping Our Stormwater Clean – A Builder’s Guide” booklet can be obtained from Melbourne Water by ringing on 131 722 or can be downloaded from the following website. https://www.clearwatervic.com.au/user-data/resource-files/Keeping_Our_Stormwater_Clean-A_Builders_Guide%5b1%5d.pdf

5.4 Maintenance Requirements

The following maintenance measures are required to be undertaken at 6 monthly intervals, when it is evident that a blockage has occurred or after a storm event. The individual property owners are responsible for the maintenance of the stormwater system.

- All screens to be checked for blockages and cleaned if necessary
- Sweep, wet vacuum or pressure hose courtyards and laneways to remove accumulated sediment and debris.
- Clear any drainage pipes in the courtyards and laneways that direct water to the stormwater system.

If used; all pumps or specialist equipment to be installed as part of this system is to be maintained in accordance with the manufacturer’s specifications.

6 MANAGEMENT, MAINTENANCE & MONITORING

To ensure that the initiatives outlined in this report are implemented and maintained over time a copy this report will be provided to the owners or owners' corporation.

Inefficiently performing services impact on indoor environment qualities and may increase running costs and greenhouse gas emissions. The owners or owners' corporation will monitor all sustainability initiatives on-site, and will schedule regular fine-tuning of building services and their ongoing maintenance, ensuring the building's maximum environmental performance is achieved at all times.

This development includes a wide range of holistic sustainability measures which have been carefully integrated into the design of the development so that the residents will have the opportunity to reduce their ecological footprint without compromising their quality of life. The proposed design and site-specific initiatives will contribute to Maribyrnong City Council's sustainable development vision.

7 APPENDICES

7.1 APPENDIX A: PRELIMINARY 7-STAR ENERGY RATING RESULTS

The thermal performance of dwellings is assessed using FirstRate5, and energy modelling software programme that rates dwellings on a 10-star scale. Using Accurate (a nationally recognised energy benchmarking tool) to rate dwellings based on climate zone, building orientation, construction materials and building sealing. Victorian multi developments are required to achieve an average of 7-stars.

This development achieves and average NatHERS Star Rating of 7.1. All relevant design features have been included in the energy calculations, such as orientation, form, shading, building fabric and glazing.

BUILDING MATERIALS (ALL DWELLINGS)

BUILDING ELEMENT	CONSTRUCTION ASSUMPTIONS	ADDED R-VALUE
Wall Insulation	Various cladding Added R2.5 bulk insulation Lightweight party walls Between dwellings Added R2.5 bulk insulation	R2.5
Roof Insulation	Added minimum R5.0 Bulk Insulation at ceiling level	R5.0
Window Frames	Aluminium	

GLAZING

WINDOW TYPE	WINDOW PARAMETERS		TYPICAL GLAZING SOLUTION
	U- VALUE (W/m2K)	SHGC	
Awning Windows	≤3.58	0.54	Double glazed clear
Fixed Windows	≤ 3.18	0.67	Double glazed clear
Sliding Doors	≤ 3.65	0.63	Double glazed clear

GENERAL RATING INPUTS

ELEMENT	DESCRIPTION
Floor Coverings	- Tiimber to kitchens, living areas and corridors - Carpet to upstairs and bedrooms - Tiles to wet areas
Downlights	- Recessed LED downlights in ceiling/ roof space to be fitted with fire proof unvented downlight covers (external roof areas only) to provide air tightness and contact with insulation
Draught Proofing	- Weather strips to all entry and external doors and windows - Sealed exhaust fans

ENERGY RATING RESULTS

	STAR RATING	ENERGY USAGE (MJ/M2)		
		TOTAL	HEATING	COOLING
Dwelling 1	7.2	91.7	67.6	24.1
Dwelling 2	7.0	98.9	80.4	18.4
Dwelling 3	7.0	97.9	78.6	19.3
Dwelling 4	7.2	94.1	74.0	20.0
Dwelling 5	7.1	96.7	76.1	20.6
Dwelling 6	7.0	98.5	74.6	23.8
Dwelling 7	7.0	98.0	76.4	21.6
Dwelling 8	7.0	99.0	76.1	22.9
Dwelling 9	7.1	94.7	76.0	18.7
Dwelling 10	7.1	96.7	74.0	22.7
Dwelling 11	7.0	98.9	76.0	22.9
Dwelling 12	7.3	90.5	67.6	22.7
Estimated Average	**7.1**	**96.3**	**74.8**	**21.5**

The energy ratings detailed above shows that the development meets the standard required by the National Construction Code (NCC) of Australia 2022 in relation to residential energy efficiency.

Nationwide House Energy Rating Scheme®
NatHERS® Certificate

Generated on 22 Jul 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	1, 1/17-19 Bloomfield avenue, Maribyrnong, VIC, 3032
Lot/DP	-
NCC Class*	Class 1a
Floor/all Floors Type	New Home

Plans

Main plan	TP 9.07.25
Prepared by	Jontian Group

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	103.2	suburban
Unconditioned*	33.2	**NatHERS climate zone**
Total	136.4	60 Tullamarine
Garage	20.8	

Accredited assessor

Name	Odin Solutions
Business name	Odin Solutions
Email	odinsolutions@outlook.com
Phone	0416378099
Accreditation No.	HERA10312
Assessor Accrediting Organisation	HERA
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 2
State/Territory variation	Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	67.6	24.1
Load limits	95	27

Features determining load limits

Floor type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	N
Outdoor living area	N
Outdoor living area ceiling fan	N

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:
- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:
- Yes
- No
- NA – not applicable

Outdoor living area:
- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:
- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

No colours were specified, therefore the following options have been used:

Exterior wall colours have been modelled as '0.5'

Internal wall colours have been modelled as '0.5'

The roof colour has been modelled as '0.5'

The ceiling colour has been modelled as '0.5'.

IC Rated LED downlights to be used throughout.

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Garage	garage	20.8
Laundry	unconditioned	4.4
WC	unconditioned	2.2
Kitchen/ Living	kitchen	49
Bathroom	unconditioned	5.8
Bedroom 1	bedroom	12.4
Bedroom 1 Ensuite	nightTime	5.6
Bedroom 1 Robe	nightTime	4.2
Bedroom 2	bedroom	11.7
Bedroom 2 Robe	nightTime	2.9
Bedroom 3	bedroom	10.8
Retreat	living	12.1

Window and glazed door *type and performance*

Default* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
A&L-001-04 A	Al Awning SG 4Clr	5.79	0.65	0.62	0.68
A&L-004-09 A	Al Awning Window DG 4/10/4	3.58	0.54	0.51	0.57
A&L-013-01 A	Al Sliding Door DG 4/10/4	3.65	0.63	0.6	0.66

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Laundry	A&L-001-04 A	Opening 17	900	600	awning	90.0	E	No
WC	A&L-001-04 A	Opening 18	900	600	awning	90.0	E	No
Kitchen/ Living	A&L-004-09 A	Opening 16	600	1500	awning	90.0	E	No
Kitchen/ Living	A&L-004-09 A	Opening 7	2100	1500	awning	45.0	N	Yes
Kitchen/ Living	A&L-004-09 A	Opening 12	2100	1800	awning	45.0	N	Yes
Kitchen/ Living	A&L-013-01 A	Opening 10	2400	3600	sliding	30.0	W	No
Kitchen/ Living	A&L-004-09 A	Opening 11	2100	850	awning	60.0	W	No

*Refer to glossary.

Bathroom	A&L-001-04 A	Opening 13	1500	600	awning	90.0	W	No
Bedroom 1	A&L-004-09 A	Opening 9	1800	1500	awning	45.0	N	No
Bedroom 1 Ensuite	A&L-001-04 A	Opening 27	900	600	awning	90.0	E	No
Bedroom 2	A&L-004-09 A	Opening 8	1800	900	awning	90.0	N	No
Bedroom 3	A&L-004-09 A	Opening 14	1500	1800	awning	45.0	W	No
Retreat	A&L-004-09 A	Opening 15	1500	1600	awning	45.0	S	No

Roof window* *type and performance value*

Default* roof windows

				Substitution tolerance ranges	
Window ID	**Window description**	**Maximum U-value***	**SHGC***	SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

				Substitution tolerance ranges	
Window ID	**Window description**	**Maximum U-value***	**SHGC***	SHGC lower limit	SHGC upper limit
No Data Available					

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2040	870	100.0	E
Garage	2400	2800	100.0	W
Kitchen/ Living	2340	870	100.0	N

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*

*Refer to glossary.

1	Gyprock Party Wall + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5);Glass fibre batt: R2.5 (R2.5)	No
2	FR5 - Brick Veneer	0.5	Medium		No
3	FR5 - Double Brick	0.5	Medium		No
4	Brick Veneer + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
5	Fibro Clad + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
6	75mm Expanded Polystyrene Clad + R2.5	0.5	Medium	Polystyrene expanded (k = 0.039) (R1.9);Glass fibre batt: R2.5 (R2.5)	Yes

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Garage	1	2700	4037	S	0	No
Garage	2	2790	1944	S	0	No
Garage	2	2790	3473	E	0	Yes
Garage	2	2790	754	N	0	Yes
Garage	3	2790	3475	W	0	Yes
Laundry	4	2700	1706	E	0	Yes
WC	4	2700	966	E	0	Yes
WC	4	2700	398	S	0	Yes
WC	4	2700	907	E	0	Yes
Kitchen/ Living	4	2700	2110	S	0	Yes
Kitchen/ Living	4	2700	2551	E	0	Yes
Kitchen/ Living	4	2700	2101	N	0	Yes
Kitchen/ Living	4	2700	1499	E	0	Yes
Kitchen/ Living	4	2700	5633	N	1050	No
Kitchen/ Living	4	2700	7862	W	0	Yes
Bathroom	5	2700	2457	W	0	No
Bedroom 1	6	2700	1702	N	450	Yes
Bedroom 1	6	2700	3278	E	0	No
Bedroom 1 Ensuite	6	2700	2711	E	0	No
Bedroom 1 Ensuite	6	2700	2076	S	0	No
Bedroom 1 Robe	6	2700	2025	E	0	No
Bedroom 2	5	2700	3446	N	450	No
Bedroom 2	5	2700	3384	W	0	No
Bedroom 2 Robe	5	2700	2075	N	0	No
Bedroom 2 Robe	5	2700	1383	E	0	Yes

*Refer to glossary.

Bedroom 3	5	2700	3677	W	0	No
Bedroom 3	6	2700	3042	S	0	No
Retreat	6	2700	1973	S	0	No

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	13.8	Glass fibre batt: R2.5 (R2.5)
2	FR5 - Internal Plasterboard Stud Wall	100	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	10.8	Enclosed	R0.0	none
Garage	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	10	Enclosed	R0.0	none
Laundry	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	4.4	Enclosed	R0.0	Tiles
WC	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	2	Enclosed	R0.0	Tiles
WC	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	0.2	Enclosed	R0.0	Tiles
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	0.5	Enclosed	R0.0	Timber
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	48.5	Enclosed	R0.0	Timber
Bathroom	Timber Floor Plasterboard Under	5.8	Enclosed	R0.0	Tiles
Bedroom 1	Timber Floor Plasterboard Under	12.4	Enclosed	R0.0	Carpet
Bedroom 1 Ensuite	Timber Floor Plasterboard Under	1.7	Enclosed	R0.0	Tiles
Bedroom 1 Ensuite	Timber Floor Plasteboard Under + R2.5	3.9	Enclosed	R2.5	Tiles
Bedroom 1 Robe	Timber Floor Plasterboard Under	4.2	Enclosed	R0.0	Carpet
Bedroom 2	Timber Floor Plasterboard Under	11.7	Enclosed	R0.0	Carpet
Bedroom 2 Robe	Timber Floor Plasterboard Under	2.9	Enclosed	R0.0	Carpet
Bedroom 3	Timber Floor Fibro Under + R2.5	3.1	Elevated	R2.5	Carpet
Bedroom 3	Timber Floor Plasteboard Under + R2.5	1.8	Enclosed	R2.5	Carpet
Bedroom 3	Timber Floor Plasterboard Under	6	Enclosed	R0.0	Carpet

*Refer to glossary.

Retreat	Timber Floor Plasterboard Under	8.4	Enclosed	R0.0	Carpet
Retreat	Timber Floor Plasteboard Under + R2.5	3.7	Enclosed	R2.5	Carpet

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Garage	Timber Floor Plasteboard Under + R2.5	R2.5	No
Garage	Timber Floor Plasterboard Under	R0.0	No
Garage	Plasterboard	R0.0	Yes
Laundry	Timber Floor Plasterboard Under	R0.0	No
Laundry	Timber Floor Plasteboard Under + R2.5	R2.5	No
WC	Timber Floor Plasterboard Under	R0.0	No
Kitchen/ Living	Timber Floor Plasterboard Under	R0.0	No
Kitchen/ Living	Timber Floor Plasteboard Under + R2.5	R2.5	No
Bathroom	Plasterboard	R5.0	Yes
Bedroom 1	Plasterboard	R5.0	Yes
Bedroom 1 Ensuite	Plasterboard	R5.0	Yes
Bedroom 1 Ensuite	Plasterboard	R5.0	Yes
Bedroom 1 Robe	Plasterboard	R5.0	Yes
Bedroom 2	Plasterboard	R5.0	Yes
Bedroom 2 Robe	Plasterboard	R5.0	Yes
Bedroom 3	Plasterboard	R5.0	Yes
Bedroom 3	Plasterboard	R5.0	Yes
Bedroom 3	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Laundry	1	Downlights	0	0	Sealed
WC	1	Exhaust Fans	250	250	Sealed

*Refer to glossary.

WC	1	Downlights	0	0	Sealed
Kitchen/ Living	1	Exhaust Fans	250	250	Sealed
Kitchen/ Living	14	Downlights	0	0	Sealed
Bathroom	1	Exhaust Fans	250	250	Sealed
Bathroom	3	Downlights	0	0	Sealed
Bedroom 1	4	Downlights	0	0	Sealed
Bedroom 1 Ensuite	2	Downlights	0	0	Sealed
Bedroom 1 Ensuite	1	Exhaust Fans	250	250	Sealed
Bedroom 1 Robe	1	Downlights	0	0	Sealed
Bedroom 2	4	Downlights	0	0	Sealed
Bedroom 2 Robe	1	Downlights	0	0	Sealed
Bedroom 3	4	Downlights	0	0	Sealed
Retreat	6	Downlights	0	0	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium
Ceil: Ceiling	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

*Refer to glossary.

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

Nationwide House Energy Rating Scheme® NatHERS® Certificate

Generated on 22 Jul 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	2, 1/17-19 Bloomfield avenue, Maribyrnong, VIC, 3032
Lot/DP	-
NCC Class*	Class 1a
Floor/all Floors Type	New Home

Plans

Main plan	TP 9.07.25
Prepared by	Jontian Group

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	92.2	suburban
Unconditioned*	24.4	**NatHERS climate zone**
Total	116.6	60 Tullamarine
Garage	20.9	

Accredited assessor

Name	Odin Solutions
Business name	Odin Solutions
Email	odinsolutions@outlook.com
Phone	0416378099
Accreditation No.	HERA10312
Assessor Accrediting Organisation	HERA
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 2
State/Territory variation	Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating

98.9 MJ/m²

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

For more information on your dwelling's rating see:
www.nathers.gov.au

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	80.4	18.4
Load limits	95	27

Features determining load limits

Floor type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	N
Outdoor living area	N
Outdoor living area ceiling fan	N

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA – not applicable

Outdoor living area:

- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

Greenhouse gas emissions:

Cost:

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

No colours were specified, therefore the following options have been used:

Exterior wall colours have been modelled as '0.5'

Internal wall colours have been modelled as '0.5'

The roof colour has been modelled as '0.5'

The ceiling colour has been modelled as '0.5'.

IC Rated LED downlights to be used throughout.

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Garage	garage	20.9
Powder	unconditioned	3.6
Laundry	dayTime	1.2
Kitchen/ Living	kitchen	35.2
Bedroom 1	bedroom	12.9
Bedroom 1 Robe	nightTime	5.2
Bedroom 1 Ensuite	nightTime	5.5
Bedroom 2	bedroom	11.8
Bedroom 2 Robe	nightTime	3.2
Bathroom	nightTime	5
Retreat	living	18.5

Window and glazed door *type and performance*

Default* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
A&L-001-04 A	Al Awning SG 4Clr	5.79	0.65	0.62	0.68
A&L-004-10 A	Al Awning Window DG 4/10/4EA	3.06	0.5	0.48	0.53
A&L-013-02 A	Al Sliding Door DG 4/10/4EA	3.04	0.59	0.56	0.62
A&L-004-09 A	Al Awning Window DG 4/10/4	3.58	0.54	0.51	0.57
A&L-026-09 A	Al Boutique Fixed Lite Window DG 4/10/4	3.18	0.67	0.64	0.7

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Powder	A&L-001-04 A	Opening 15	900	600	awning	90.0	E	No
Kitchen/ Living	A&L-004-10 A	Opening 10	1400	2100	awning	60.0	W	Yes
Kitchen/ Living	A&L-013-02 A	Opening 14	2400	3000	sliding	30.0	E	No
Bedroom 1	A&L-004-09 A	Opening 13	1800	1200	awning	90.0	W	No

*Refer to glossary.

Bedroom 1 Ensuite	A&L-004-09 A	Opening 16	400	900	awning	90.0	E	No
Bedroom 2	A&L-004-09 A	Opening 11	1500	1800	awning	45.0	W	No
Bathroom	A&L-004-09 A	Opening 18	1200	600	awning	90.0	E	No
Retreat	A&L-004-10 A	Opening 17	600	2100	awning	90.0	E	No
Retreat	A&L-026-09 A	Opening 12	1800	600	fixed	0.0	W	No

Roof window* *type and performance value*

Default* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
Velux:VEL-010-01 W	VELUX VS - Ventilating Skylight DG 3mm LoE 366 / 8.5mm Argon Gap / 5.36mm Clear La	2.53	0.21	0.2	0.22

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
Retreat	Velux:VEL-010-01 W	Element 1	0.0	0.7	0	N	None	None

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2400	3000	100.0	W
Kitchen/ Living	2340	870	100.0	W

External wall *type*

*Refer to glossary.

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	Gyprock Party Wall + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5);Glass fibre batt: R2.5 (R2.5)	No
2	FR5 - Double Brick	0.5	Medium		No
3	Brick Veneer + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
4	Fibro Clad + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
5	75mm Expanded Polystyrene Clad + R2.5	0.5	Medium	Polystyrene expanded (k = 0.039) (R1.9);Glass fibre batt: R2.5 (R2.5)	Yes

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Garage	1	2700	5989	S	0	No
Garage	2	2790	3482	W	1055	Yes
Powder	1	2700	1905	S	0	No
Powder	3	2700	1882	E	0	Yes
Laundry	3	2700	1491	E	0	Yes
Kitchen/ Living	1	2700	4030	N	0	No
Kitchen/ Living	3	2700	4357	N	0	Yes
Kitchen/ Living	3	2700	2661	W	653	Yes
Kitchen/ Living	3	2700	397	S	4830	Yes
Kitchen/ Living	3	2700	1408	W	1050	Yes
Kitchen/ Living	3	2700	4065	E	0	Yes
Bedroom 1	1	2700	3575	S	0	No
Bedroom 1	4	2700	1143	N	0	Yes
Bedroom 1	4	2700	3481	W	300	Yes
Bedroom 1 Robe	1	2700	2176	S	0	No
Bedroom 1 Ensuite	5	2700	1484	E	0	Yes
Bedroom 1 Ensuite	1	2700	3161	S	0	No
Bedroom 2	4	2700	389	S	0	Yes
Bedroom 2	4	2700	3372	N	0	Yes
Bedroom 2	4	2700	2974	W	0	Yes
Bedroom 2 Robe	4	2700	1703	N	0	Yes
Bathroom	4	2700	2671	N	0	Yes
Bathroom	4	2700	1882	E	0	Yes
Retreat	5	2700	4076	E	0	Yes

*Refer to glossary.

Retreat	5	2700	405	N	0	Yes
Retreat	5	2700	975	W	0	Yes

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	30	Glass fibre batt: R2.5 (R2.5)
2	FR5 - Internal Plasterboard Stud Wall	83.4	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	20.9	Enclosed	R0.0	none
Powder	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	3.6	Enclosed	R0.0	Tiles
Laundry	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	1.2	Enclosed	R0.0	Tiles
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	34.7	Enclosed	R0.0	Timber
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	0.5	Enclosed	R0.0	Timber
Bedroom 1	Timber Floor Plasteboard Under + R2.5	9.8	Enclosed	R2.5	Carpet
Bedroom 1	Timber Floor Fibro Under + R2.5	3.1	Elevated	R2.5	Carpet
Bedroom 1 Robe	Timber Floor Plasteboard Under + R2.5	5.2	Enclosed	R2.5	Carpet
Bedroom 1 Ensuite	Timber Floor Plasteboard Under + R2.5	2.7	Enclosed	R2.5	Tiles
Bedroom 1 Ensuite	Timber Floor Plasterboard Under	2.8	Enclosed	R0.0	Tiles
Bedroom 2	Timber Floor Plasterboard Under	11.8	Enclosed	R0.0	Carpet
Bedroom 2	Timber Floor Fibro Under + R2.5	0	Elevated	R2.5	Carpet
Bedroom 2 Robe	Timber Floor Plasterboard Under	3.2	Enclosed	R0.0	Carpet
Bathroom	Timber Floor Plasterboard Under	5	Enclosed	R0.0	Tiles
Retreat	Timber Floor Plasteboard Under + R2.5	3.6	Enclosed	R2.5	Carpet
Retreat	Timber Floor Plasterboard Under	15	Enclosed	R0.0	Carpet

Ceiling *type*

*Refer to glossary.

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Garage	Timber Floor Plasteboard Under + R2.5	R2.5	No
Powder	Timber Floor Plasteboard Under + R2.5	R2.5	No
Powder	Timber Floor Plasterboard Under	R0.0	No
Laundry	Timber Floor Plasterboard Under	R0.0	No
Kitchen/ Living	Timber Floor Plasterboard Under	R0.0	No
Kitchen/ Living	Timber Floor Plasteboard Under + R2.5	R2.5	No
Bedroom 1	Plasterboard	R5.0	Yes
Bedroom 1	Plasterboard	R5.0	Yes
Bedroom 1 Robe	Plasterboard	R5.0	Yes
Bedroom 1 Ensuite	Plasterboard	R5.0	Yes
Bedroom 1 Ensuite	Plasterboard	R5.0	Yes
Bedroom 2	Plasterboard	R5.0	Yes
Bedroom 2 Robe	Plasterboard	R5.0	Yes
Bathroom	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Powder	1	Exhaust Fans	250	250	Sealed
Powder	1	Downlights	0	0	Sealed
Laundry	1	Exhaust Fans	250	250	Sealed
Laundry	1	Downlights	0	0	Sealed
Kitchen/ Living	1	Exhaust Fans	250	250	Sealed
Kitchen/ Living	14	Downlights	0	0	Sealed
Bedroom 1	4	Downlights	0	0	Sealed
Bedroom 1 Robe	1	Downlights	0	0	Sealed
Bedroom 1 Ensuite	2	Downlights	0	0	Sealed
Bedroom 1 Ensuite	1	Exhaust Fans	250	250	Sealed
Bedroom 2	4	Downlights	0	0	Sealed
Bedroom 2 Robe	1	Downlights	0	0	Sealed

*Refer to glossary.

Bathroom	1	Exhaust Fans	250	250	Sealed
Bathroom	2	Downlights	0	0	Sealed
Retreat	7	Downlights	0	0	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

*Refer to glossary.

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

Nationwide House Energy Rating Scheme® NatHERS® Certificate

Generated on 22 Jul 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	3, 3/17-19 Bloomfield avenue, Maribyrnong, VIC, 3032
Lot/DP	-
NCC Class*	Class 1a
Floor/all Floors Type	New Home

Plans

Main plan	TP 9.07.25
Prepared by	Jontian Group

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	91.9	suburban
Unconditioned*	24.3	**NatHERS climate zone**
Total	116.2	60 Tullamarine
Garage	20.8	

Accredited assessor

Name	Odin Solutions
Business name	Odin Solutions
Email	odinsolutions@outlook.com
Phone	0416378099
Accreditation No.	HERA10312
Assessor Accrediting Organisation	HERA
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 2
State/Territory variation	Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating

97.9 MJ/m²

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

For more information on your dwelling's rating see:
www.nathers.gov.au

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	78.6	19.3
Load limits	95	27

Features determining load limits

Floor type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	N
Outdoor living area	N
Outdoor living area ceiling fan	N

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA – not applicable

Outdoor living area:

- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

Greenhouse gas emissions:

Cost:

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

No colours were specified, therefore the following options have been used:

Exterior wall colours have been modelled as '0.5'

Internal wall colours have been modelled as '0.5'

The roof colour has been modelled as '0.5'

The ceiling colour has been modelled as '0.5'.

IC Rated LED downlights to be used throughout.

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Garage	garage	20.8
Powder	unconditioned	3.6
Laundry	dayTime	1.2
Kitchen/ Living	kitchen	35.2
Bedroom 1	bedroom	12.9
Bedroom 1 Robe	nightTime	5.2
Bedroom 1 Ensuite	nightTime	5.4
Bedroom 2	bedroom	11.8
Bedroom 2 Robe	nightTime	3.2
Bathroom	nightTime	5
Retreat	living	18.5

Window and glazed door *type and performance*

Default* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
A&L-001-04 A	Al Awning SG 4Clr	5.79	0.65	0.62	0.68
A&L-013-01 A	Al Sliding Door DG 4/10/4	3.65	0.63	0.6	0.66
A&L-004-09 A	Al Awning Window DG 4/10/4	3.58	0.54	0.51	0.57
A&L-026-09 A	Al Boutique Fixed Lite Window DG 4/10/4	3.18	0.67	0.64	0.7

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Powder	A&L-001-04 A	Opening 19	900	600	awning	90.0	E	No
Kitchen/ Living	A&L-013-01 A	Opening 20	2400	3000	sliding	30.0	E	No
Kitchen/ Living	A&L-004-09 A	Opening 12	900	2100	awning	90.0	W	No
Bedroom 1	A&L-004-09 A	Opening 13	1800	1200	awning	90.0	W	No
Bedroom 1 Ensuite	A&L-004-09 A	Opening 16	400	900	awning	90.0	E	No

*Refer to glossary.

Bedroom 2	A&L-004-09 A	Opening 15	1500	1800	awning	45.0	W	No
Bathroom	A&L-004-09 A	Opening 18	1200	600	awning	90.0	E	No
Retreat	A&L-004-09 A	Opening 17	600	2100	awning	90.0	E	No
Retreat	A&L-026-09 A	Opening 14	1800	600	fixed	0.0	W	No

Roof window* *type and performance value*

Default* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
Velux:VEL-010-01 W	VELUX VS - Ventilating Skylight DG 3mm LoE 366 / 8.5mm Argon Gap / 5.36mm Clear La	2.53	0.21	0.2	0.22

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
Retreat	Velux:VEL-010-01 W	Element 2	3.0	0.7	0	N	None	None

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2400	3000	100.0	W
Kitchen/ Living	2340	870	100.0	W

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*

*Refer to glossary.

1	Gyprock Party Wall + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5);Glass fibre batt: R2.5 (R2.5)	No
2	FR5 - Double Brick	0.5	Medium		No
3	Brick Veneer + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
4	Fibro Clad + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
5	75mm Expanded Polystyrene Clad + R2.5	0.5	Medium	Polystyrene expanded (k = 0.039) (R1.9);Glass fibre batt: R2.5 (R2.5)	Yes

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Garage	1	2700	5987	N	0	No
Garage	2	2790	3474	W	1055	Yes
Powder	3	2700	1864	E	0	Yes
Powder	1	2700	1906	N	0	No
Laundry	3	2700	1483	E	0	Yes
Kitchen/ Living	3	2700	4069	E	0	Yes
Kitchen/ Living	3	2700	1407	W	1050	Yes
Kitchen/ Living	3	2700	397	N	4830	Yes
Kitchen/ Living	3	2700	2660	W	0	Yes
Kitchen/ Living	1	2700	8385	S	0	No
Bedroom 1	1	2700	3574	N	0	No
Bedroom 1	4	2700	3473	W	300	Yes
Bedroom 1	4	2700	1143	S	0	Yes
Bedroom 1 Robe	1	2700	2178	N	0	No
Bedroom 1 Ensuite	1	2700	3161	N	0	No
Bedroom 1 Ensuite	5	2700	1466	E	0	Yes
Bedroom 2	4	2700	387	N	0	Yes
Bedroom 2	4	2700	2972	W	0	Yes
Bedroom 2	1	2700	3372	S	0	No
Bedroom 2 Robe	1	2700	1703	S	0	No
Bathroom	4	2700	1880	E	0	Yes
Bathroom	1	2700	2669	S	0	No
Retreat	5	2700	4066	E	0	Yes
Retreat	5	2700	974	W	0	Yes
Retreat	5	2700	405	S	0	Yes

*Refer to glossary.

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	29.9	Glass fibre batt: R2.5 (R2.5)
2	FR5 - Internal Plasterboard Stud Wall	83.2	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	20.8	Enclosed	R0.0	none
Powder	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	3.6	Enclosed	R0.0	Tiles
Laundry	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	1.2	Enclosed	R0.0	Tiles
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	34.7	Enclosed	R0.0	Timber
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	0.5	Enclosed	R0.0	Timber
Bedroom 1	Timber Floor Fibro Under + R2.5	3.1	Elevated	R2.5	Carpet
Bedroom 1	Timber Floor Plasteboard Under + R2.5	9.8	Enclosed	R2.5	Carpet
Bedroom 1 Robe	Timber Floor Plasteboard Under + R2.5	5.2	Enclosed	R2.5	Carpet
Bedroom 1 Ensuite	Timber Floor Plasteboard Under + R2.5	2.6	Enclosed	R2.5	Tiles
Bedroom 1 Ensuite	Timber Floor Plasterboard Under	2.8	Enclosed	R0.0	Tiles
Bedroom 2	Timber Floor Fibro Under + R2.5	0	Elevated	R2.5	Carpet
Bedroom 2	Timber Floor Plasterboard Under	11.8	Enclosed	R0.0	Carpet
Bedroom 2 Robe	Timber Floor Plasterboard Under	3.2	Enclosed	R0.0	Carpet
Bathroom	Timber Floor Plasterboard Under	5	Enclosed	R0.0	Tiles
Retreat	Timber Floor Plasteboard Under + R2.5	3.6	Enclosed	R2.5	Carpet
Retreat	Timber Floor Plasterboard Under	15	Enclosed	R0.0	Carpet

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*

*Refer to glossary.

Garage	Timber Floor Plasteboard Under + R2.5	R2.5	No
Powder	Timber Floor Plasteboard Under + R2.5	R2.5	No
Powder	Timber Floor Plasterboard Under	R0.0	No
Laundry	Timber Floor Plasterboard Under	R0.0	No
Kitchen/ Living	Timber Floor Plasterboard Under	R0.0	No
Kitchen/ Living	Timber Floor Plasteboard Under + R2.5	R2.5	No
Bedroom 1	Plasterboard	R5.0	Yes
Bedroom 1	Plasterboard	R5.0	Yes
Bedroom 1 Robe	Plasterboard	R5.0	Yes
Bedroom 1 Ensuite	Plasterboard	R5.0	Yes
Bedroom 1 Ensuite	Plasterboard	R5.0	Yes
Bedroom 2	Plasterboard	R5.0	Yes
Bedroom 2 Robe	Plasterboard	R5.0	Yes
Bathroom	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Powder	1	Exhaust Fans	250	250	Sealed
Powder	1	Downlights	0	0	Sealed
Laundry	1	Exhaust Fans	250	250	Sealed
Laundry	1	Downlights	0	0	Sealed
Kitchen/ Living	1	Exhaust Fans	250	250	Sealed
Kitchen/ Living	14	Downlights	0	0	Sealed
Bedroom 1	4	Downlights	0	0	Sealed
Bedroom 1 Robe	1	Downlights	0	0	Sealed
Bedroom 1 Ensuite	1	Exhaust Fans	250	250	Sealed
Bedroom 1 Ensuite	2	Downlights	0	0	Sealed
Bedroom 2	4	Downlights	0	0	Sealed
Bedroom 2 Robe	1	Downlights	0	0	Sealed
Bathroom	1	Exhaust Fans	250	250	Sealed
Bathroom	2	Downlights	0	0	Sealed

*Refer to glossary.

Retreat	7	Downlights	0	0	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium
Disc:Attic-Discontinuous	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

Nationwide House Energy Rating Scheme®
NatHERS® Certificate

Generated on 22 Jul 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	4, 4/17-19 Bloomfield avenue, Maribyrnong, VIC, 3032
Lot/DP	-
NCC Class*	Class 1a
Floor/all Floors	
Type	New Home

Plans

Main plan	TP 9.07.25
Prepared by	Jontian Group

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	94.6	suburban
Unconditioned*	24.4	**NatHERS climate zone**
Total	119	60 Tullamarine
Garage	20.8	

Accredited assessor

Name	Odin Solutions
Business name	Odin Solutions
Email	odinsolutions@outlook.com
Phone	0416378099
Accreditation No.	HERA10312
Assessor Accrediting Organisation	HERA
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 2
State/Territory variation	Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	74	20
Load limits	95	27

Features determining load limits

Floor type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	N
Outdoor living area	N
Outdoor living area ceiling fan	N

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:
- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:
- Yes
- No
- NA – not applicable

Outdoor living area:
- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:
- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

No colours were specified, therefore the following options have been used:

Exterior wall colours have been modelled as '0.5'

Internal wall colours have been modelled as '0.5'

The roof colour has been modelled as '0.5'

The ceiling colour has been modelled as '0.5'.

IC Rated LED downlights to be used throughout.

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Garage	garage	20.8
Powder	unconditioned	3.6
Laundry	dayTime	1.2
Kitchen/ Living	kitchen	35.2
Bedroom 1	bedroom	12.9
Bedroom 1 Robe	nightTime	5.2
Bedroom 1 Ensuite	nightTime	5.4
Bedroom 2	bedroom	11.8
Bedroom 2 Robe	nightTime	3.2
Bathroom	nightTime	5
Void	doubleHeightVoid	1.2
Retreat	living	17.2

Window and glazed door *type and performance*

Default* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
A&L-001-04 A	Al Awning SG 4Clr	5.79	0.65	0.62	0.68
A&L-004-09 A	Al Awning Window DG 4/10/4	3.58	0.54	0.51	0.57
A&L-013-01 A	Al Sliding Door DG 4/10/4	3.65	0.63	0.6	0.66
A&L-026-09 A	Al Boutique Fixed Lite Window DG 4/10/4	3.18	0.67	0.64	0.7

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Powder	A&L-001-04 A	Opening 17	900	600	awning	90.0	E	No
Kitchen/ Living	A&L-004-09 A	Opening 1	1400	2100	awning	60.0	W	No
Kitchen/ Living	A&L-013-01 A	Opening 18	2400	3000	sliding	30.0	E	No
Bedroom 1	A&L-004-09 A	Opening 6	1800	1200	awning	90.0	W	No

*Refer to glossary.

Bedroom 1 Ensuite	A&L-004-09 A	Opening 9	400	900	awning	90.0	E	No
Bedroom 2	A&L-004-09 A	Opening 4	1500	1800	awning	45.0	W	No
Bathroom	A&L-004-09 A	Opening 7	1200	600	awning	90.0	E	No
Void	A&L-026-09 A	Opening 5	1800	600	fixed	0.0	W	No
Retreat	A&L-004-09 A	Opening 8	600	2100	awning	90.0	E	No

Roof window* *type and performance value*

Default* roof windows

				Substitution tolerance ranges	
Window ID	**Window description**	**Maximum U-value***	**SHGC***	SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

				Substitution tolerance ranges	
Window ID	**Window description**	**Maximum U-value***	**SHGC***	SHGC lower limit	SHGC upper limit
Velux:VEL-010-01 W	VELUX VS - Ventilating Skylight DG 3mm LoE 366 / 8.5mm Argon Gap / 5.36mm Clear La	2.53	0.21	0.2	0.22

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
Retreat	Velux:VEL-010-01 W	Element 1	0.0	0.7	0	N	None	None

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2400	3000	100.0	W
Kitchen/ Living	2340	870	100.0	W

External wall *type*

*Refer to glossary.

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	Gyprock Party Wall + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5);Glass fibre batt: R2.5 (R2.5)	No
2	FR5 - Double Brick	0.5	Medium		No
3	Brick Veneer + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
4	Fibro Clad + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
5	75mm Expanded Polystyrene Clad + R2.5	0.5	Medium	Polystyrene expanded (k = 0.039) (R1.9);Glass fibre batt: R2.5 (R2.5)	Yes

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Garage	1	2700	5987	S	0	No
Garage	2	2790	3473	W	1060	Yes
Powder	1	2700	1906	S	0	No
Powder	3	2700	1872	E	0	Yes
Laundry	3	2700	1483	E	0	Yes
Kitchen/ Living	1	2700	8386	N	0	No
Kitchen/ Living	3	2700	2669	W	0	Yes
Kitchen/ Living	3	2700	391	S	4830	Yes
Kitchen/ Living	3	2700	1397	W	1050	Yes
Kitchen/ Living	3	2700	4069	E	0	Yes
Bedroom 1	4	2700	1143	N	0	Yes
Bedroom 1	4	2700	3475	W	300	Yes
Bedroom 1	1	2700	3574	S	0	No
Bedroom 1 Robe	1	2700	2178	S	0	No
Bedroom 1 Ensuite	5	2700	1474	E	0	Yes
Bedroom 1 Ensuite	1	2700	3160	S	0	No
Bedroom 2	4	2700	389	S	0	Yes
Bedroom 2	1	2700	3371	N	0	No
Bedroom 2	4	2700	2981	W	0	Yes
Bedroom 2 Robe	1	2700	1703	N	0	No
Bathroom	4	2700	1887	E	0	Yes
Bathroom	1	2700	2671	N	0	No
Void	5	2700	974	W	0	Yes
Retreat	5	2700	4074	E	0	Yes

*Refer to glossary.

Retreat	5	2700	408	N	0	Yes

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	30	Glass fibre batt: R2.5 (R2.5)
2	FR5 - Internal Plasterboard Stud Wall	85	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	20.8	Enclosed	R0.0	none
Powder	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	3.6	Enclosed	R0.0	Tiles
Laundry	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	1.2	Enclosed	R0.0	Tiles
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	34.7	Enclosed	R0.0	Timber
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	0.5	Enclosed	R0.0	Timber
Bedroom 1	Timber Floor Fibro Under + R2.5	3.1	Elevated	R2.5	Carpet
Bedroom 1	Timber Floor Plasteboard Under + R2.5	9.8	Enclosed	R2.5	Carpet
Bedroom 1 Robe	Timber Floor Plasteboard Under + R2.5	5.2	Enclosed	R2.5	Carpet
Bedroom 1 Ensuite	Timber Floor Plasteboard Under + R2.5	2.6	Enclosed	R2.5	Tiles
Bedroom 1 Ensuite	Timber Floor Plasterboard Under	2.8	Enclosed	R0.0	Tiles
Bedroom 2	Timber Floor Plasterboard Under	11.8	Enclosed	R0.0	Carpet
Bedroom 2	Timber Floor Fibro Under + R2.5	0	Elevated	R2.5	Carpet
Bedroom 2 Robe	Timber Floor Plasterboard Under	3.2	Enclosed	R0.0	Carpet
Bathroom	Timber Floor Plasterboard Under	5	Enclosed	R0.0	Tiles
Void	No Floor	1.2	Enclosed	R0.0	No Floor
Retreat	Timber Floor Plasteboard Under + R2.5	3.6	Enclosed	R2.5	Carpet
Retreat	Timber Floor Plasterboard Under	13.7	Enclosed	R0.0	Carpet

Ceiling *type*

*Refer to glossary.

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Garage	Timber Floor Plasteboard Under + R2.5	R2.5	No
Powder	Timber Floor Plasterboard Under	R0.0	No
Laundry	Timber Floor Plasterboard Under	R0.0	No
Kitchen/ Living	Timber Floor Plasterboard Under	R0.0	No
Bedroom 1	Plasterboard	R5.0	Yes
Bedroom 1	Plasterboard	R5.0	Yes
Bedroom 1 Robe	Plasterboard	R5.0	Yes
Bedroom 1 Ensuite	Plasterboard	R5.0	Yes
Bedroom 1 Ensuite	Plasterboard	R5.0	Yes
Bedroom 2	Plasterboard	R5.0	Yes
Bedroom 2 Robe	Plasterboard	R5.0	Yes
Bathroom	Plasterboard	R5.0	Yes
Void	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Powder	1	Exhaust Fans	250	250	Sealed
Powder	1	Downlights	0	0	Sealed
Laundry	1	Exhaust Fans	250	250	Sealed
Laundry	1	Downlights	0	0	Sealed
Kitchen/ Living	1	Exhaust Fans	250	250	Sealed
Kitchen/ Living	14	Downlights	0	0	Sealed
Bedroom 1	4	Downlights	0	0	Sealed
Bedroom 1 Robe	1	Downlights	0	0	Sealed
Bedroom 1 Ensuite	1	Exhaust Fans	250	250	Sealed
Bedroom 1 Ensuite	2	Downlights	0	0	Sealed
Bedroom 2	4	Downlights	0	0	Sealed
Bedroom 2 Robe	1	Downlights	0	0	Sealed
Bathroom	1	Exhaust Fans	250	250	Sealed
Bathroom	2	Downlights	0	0	Sealed
Retreat	7	Downlights	0	0	Sealed

*Refer to glossary.

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

Nationwide House Energy Rating Scheme®
NatHERS® Certificate

Generated on 22 Jul 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	5, 5/17-19 Bloomfield avenue, Maribyrnong, VIC, 3032
Lot/DP	-
NCC Class*	Class 1a
Floor/all Floors	
Type	New Home

Plans

Main plan	TP 9.07.25
Prepared by	Jontian Group

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	90.9	suburban
Unconditioned*	24.4	**NatHERS climate zone**
Total	115.3	60 Tullamarine
Garage	20.8	

Accredited assessor

Name	Odin Solutions
Business name	Odin Solutions
Email	odinsolutions@outlook.com
Phone	0416378099
Accreditation No.	HERA10312
Assessor Accrediting Organisation	HERA
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 2
State/Territory variation	Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	76.1	20.6
Load limits	95	27

Features determining load limits

Floor type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	N
Outdoor living area	N
Outdoor living area ceiling fan	N

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA – not applicable

Outdoor living area:

- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

No colours were specified, therefore the following options have been used:

Exterior wall colours have been modelled as '0.5'

Internal wall colours have been modelled as '0.5'

The roof colour has been modelled as '0.5'

The ceiling colour has been modelled as '0.5'.

IC Rated LED downlights to be used throughout.

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Garage	garage	20.8
Powder	unconditioned	3.6
Laundry	dayTime	1.2
Kitchen/ Living	kitchen	35.2
Bedroom 1	bedroom	12.9
Bedroom 1 Robe	nightTime	5.2
Bedroom 1 Ensuite	nightTime	5.5
Bedroom 2	bedroom	11.8
Bedroom 2 Robe	nightTime	3.2
Bathroom	nightTime	5
Void	doubleHeightVoid	1.2
Retreat	living	17.3

Window and glazed door *type and performance*

Default* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
A&L-001-04 A	Al Awning SG 4Clr	5.79	0.65	0.62	0.68
A&L-013-02 A	Al Sliding Door DG 4/10/4EA	3.04	0.59	0.56	0.62
A&L-004-09 A	Al Awning Window DG 4/10/4	3.58	0.54	0.51	0.57
A&L-026-09 A	Al Boutique Fixed Lite Window DG 4/10/4	3.18	0.67	0.64	0.7

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Powder	A&L-001-04 A	Opening 15	900	600	awning	90.0	E	No
Kitchen/ Living	A&L-013-02 A	Opening 16	2400	3000	sliding	30.0	E	No
Kitchen/ Living	A&L-004-09 A	Opening 18	900	1500	awning	45.0	W	No
Kitchen/ Living	A&L-026-09 A	Opening 17	600	1800	fixed	0.0	S	No
Bedroom 1	A&L-004-09 A	Opening 21	1800	1200	awning	90.0	W	No

*Refer to glossary.

Bedroom 1 Ensuite	A&L-004-09 A	Opening 14	400	900	awning	90.0	E	No
Bedroom 2	A&L-004-09 A	Opening 22	1500	1800	awning	45.0	W	No
Bathroom	A&L-004-09 A	Opening 12	1200	600	awning	90.0	E	No
Void	A&L-026-09 A	Opening 23	1800	600	fixed	0.0	W	No
Retreat	A&L-004-09 A	Opening 13	600	2100	awning	90.0	E	No

Roof window* *type and performance value*

Default* roof windows

				Substitution tolerance ranges	
Window ID	**Window description**	**Maximum U-value***	**SHGC***	SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

				Substitution tolerance ranges	
Window ID	**Window description**	**Maximum U-value***	**SHGC***	SHGC lower limit	SHGC upper limit
Velux:VEL-010-01 W	VELUX VS - Ventilating Skylight DG 3mm LoE 366 / 8.5mm Argon Gap / 5.36mm Clear La	2.53	0.21	0.2	0.22

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
Retreat	Velux:VEL-010-01 W	Element 1	0.0	0.7	0	N	None	None

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2400	3000	100.0	W
Kitchen/ Living	2340	870	100.0	W

External wall *type*

*Refer to glossary.

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	Gyprock Party Wall + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5);Glass fibre batt: R2.5 (R2.5)	No
2	FR5 - Double Brick	0.5	Medium		No
3	Brick Veneer + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
4	Fibro Clad + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
5	75mm Expanded Polystyrene Clad + R2.5	0.5	Medium	Polystyrene expanded (k = 0.039) (R1.9);Glass fibre batt: R2.5 (R2.5)	Yes

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Garage	1	2700	5988	N	0	No
Garage	2	2700	3474	W	1055	Yes
Powder	1	2700	1906	N	0	No
Powder	3	2700	1874	E	0	Yes
Laundry	3	2700	1485	E	0	Yes
Kitchen/ Living	3	2700	4073	E	0	Yes
Kitchen/ Living	3	2700	1405	W	1050	Yes
Kitchen/ Living	3	2700	398	N	4830	Yes
Kitchen/ Living	3	2700	2670	W	0	Yes
Kitchen/ Living	3	2700	8387	S	0	No
Bedroom 1	1	2700	3576	N	0	No
Bedroom 1	4	2700	3474	W	300	Yes
Bedroom 1	4	2700	1144	S	0	Yes
Bedroom 1 Robe	1	2700	2175	N	0	No
Bedroom 1 Ensuite	1	2700	3161	N	0	No
Bedroom 1 Ensuite	5	2700	1475	E	0	No
Bedroom 2	4	2700	388	N	0	Yes
Bedroom 2	4	2700	2981	W	0	Yes
Bedroom 2	4	2700	3371	S	0	No
Bedroom 2 Robe	4	2700	1703	S	0	No
Bathroom	4	2700	1887	E	0	Yes
Bathroom	4	2700	2670	S	0	No
Void	5	2700	981	W	0	Yes
Retreat	5	2700	408	S	0	Yes

*Refer to glossary.

Retreat	5	2700	4079	E	0	No

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	30	Glass fibre batt: R2.5 (R2.5)
2	FR5 - Internal Plasterboard Stud Wall	85.1	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	20.8	Enclosed	R0.0	none
Powder	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	3.6	Enclosed	R0.0	Tiles
Laundry	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	1.2	Enclosed	R0.0	Tiles
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	34.8	Enclosed	R0.0	Timber
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	0.5	Enclosed	R0.0	Timber
Bedroom 1	Timber Floor Fibro Under + R2.5	3.1	Elevated	R2.5	Carpet
Bedroom 1	Timber Floor Plasteboard Under + R2.5	9.8	Enclosed	R2.5	Carpet
Bedroom 1 Robe	Timber Floor Plasteboard Under + R2.5	5.2	Enclosed	R2.5	Carpet
Bedroom 1 Ensuite	Timber Floor Plasteboard Under + R2.5	2.6	Enclosed	R2.5	Tiles
Bedroom 1 Ensuite	Timber Floor Plasterboard Under	2.8	Enclosed	R0.0	Tiles
Bedroom 2	Timber Floor Fibro Under + R2.5	0	Elevated	R2.5	Carpet
Bedroom 2	Timber Floor Plasterboard Under	11.8	Enclosed	R0.0	Carpet
Bedroom 2 Robe	Timber Floor Plasterboard Under	3.2	Enclosed	R0.0	Carpet
Bathroom	Timber Floor Plasterboard Under	5	Enclosed	R0.0	Tiles
Void	No Floor	1.2	Enclosed	R0.0	No Floor
Retreat	Timber Floor Plasteboard Under + R2.5	3.5	Enclosed	R2.5	Carpet
Retreat	Timber Floor Plasterboard Under	13.7	Enclosed	R0.0	Carpet

Ceiling *type*

*Refer to glossary.

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Garage	Timber Floor Plasteboard Under + R2.5	R2.5	No
Powder	Timber Floor Plasteboard Under + R2.5	R2.5	No
Powder	Timber Floor Plasterboard Under	R0.0	No
Laundry	Timber Floor Plasterboard Under	R0.0	No
Kitchen/ Living	Timber Floor Plasterboard Under	R0.0	No
Kitchen/ Living	Timber Floor Plasteboard Under + R2.5	R2.5	No
Bedroom 1	Plasterboard	R5.0	Yes
Bedroom 1	Plasterboard	R5.0	Yes
Bedroom 1 Robe	Plasterboard	R5.0	Yes
Bedroom 1 Ensuite	Plasterboard	R5.0	Yes
Bedroom 1 Ensuite	Plasterboard	R5.0	Yes
Bedroom 2	Plasterboard	R5.0	Yes
Bedroom 2 Robe	Plasterboard	R5.0	Yes
Bathroom	Plasterboard	R5.0	Yes
Void	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Powder	1	Exhaust Fans	250	250	Sealed
Powder	1	Downlights	0	0	Sealed
Laundry	1	Exhaust Fans	250	250	Sealed
Laundry	1	Downlights	0	0	Sealed
Kitchen/ Living	1	Exhaust Fans	250	250	Sealed
Kitchen/ Living	14	Downlights	0	0	Sealed
Bedroom 1	4	Downlights	0	0	Sealed
Bedroom 1 Robe	1	Downlights	0	0	Sealed
Bedroom 1 Ensuite	1	Exhaust Fans	250	250	Sealed
Bedroom 1 Ensuite	2	Downlights	0	0	Sealed
Bedroom 2	4	Downlights	0	0	Sealed

*Refer to glossary.

Bedroom 2 Robe	1	Downlights	0	0	Sealed
Bathroom	1	Exhaust Fans	250	250	Sealed
Bathroom	1	Downlights	0	0	Sealed
Retreat	7	Downlights	0	0	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

*Refer to glossary.

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

Nationwide House Energy Rating Scheme®
NatHERS® Certificate

Generated on 22 Jul 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	6, 6/17-19 Bloomfield avenue, Maribyrnong, VIC, 3032
Lot/DP	-
NCC Class*	Class 1a
Floor/all Floors Type	New Home

Plans

Main plan	TP 9.07.25
Prepared by	Jontian Group

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	78.3	suburban
Unconditioned*	26.4	**NatHERS climate zone**
Total	104.7	60 Tullamarine
Garage	20.8	

Accredited assessor

Name	Odin Solutions
Business name	Odin Solutions
Email	odinsolutions@outlook.com
Phone	0416378099
Accreditation No.	HERA10312
Assessor Accrediting Organisation	HERA
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 2
State/Territory variation	Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	74.6	23.8
Load limits	95	27

Features determining load limits

Floor type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	N
Outdoor living area	N
Outdoor living area ceiling fan	N

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA – not applicable

Outdoor living area:

- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

Greenhouse gas emissions:

Cost:

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

No colours were specified, therefore the following options have been used:

Exterior wall colours have been modelled as '0.5'

Internal wall colours have been modelled as '0.5'

The roof colour has been modelled as '0.5'

The ceiling colour has been modelled as '0.5'.

IC Rated LED downlights to be used throughout.

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Garage	garage	20.8
Bathroom	unconditioned	5.6
Bedroom 2	bedroom	10
Kitchen/ Living	kitchen	28.2
Bathroom	nightTime	6.5
Laundry	dayTime	1.4
Bedroom 1	bedroom	12.4
Bedroom 1 Robe	nightTime	3.3
Study Nook	dayTime	9.3
Retreart	living	13.1
Void	doubleHeightVoid	2.6

Window and glazed door *type and performance*

Default* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
A&L-004-13 A	Al Awning Window DG 4/10Ar/4EA	2.85	0.51	0.48	0.54
A&L-013-05 A	Al Sliding Door DG 4/10Ar/4EA	2.79	0.6	0.57	0.63
A&L-026-13 A	Al Boutique Fixed Lite Window DG 4/10Ar/4EA	2.26	0.62	0.59	0.65

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bathroom	A&L-004-13 A	Opening 19	400	1200	awning	90.0	S	No
Bedroom 2	A&L-004-13 A	Opening 18	1200	1800	awning	45.0	S	No
Kitchen/ Living	A&L-004-13 A	Opening 9	2100	2400	awning	30.0	N	Yes
Kitchen/ Living	A&L-004-13 A	Opening 8	600	850	awning	90.0	N	No
Kitchen/ Living	A&L-013-05 A	Opening 10	2400	3000	sliding	30.0	E	Yes
Kitchen/ Living	A&L-026-13 A	Opening 11	600	1800	awning	90.0	E	Yes
Bathroom	A&L-004-13 A	Opening 21	900	600	awning	90.0	S	No

*Refer to glossary.

Bedroom 1	A&L-004-13 A	Opening 12	1200	1200	awning	90.0	E	No
Bedroom 1	A&L-004-13 A	Opening 13	2100	2100	awning	45.0	N	No
Study Nook	A&L-004-13 A	Opening 15	1800	1200	awning	90.0	N	Yes
Retreart	A&L-004-13 A	Opening 20	1500	2100	awning	45.0	S	No
Void	A&L-026-13 A	Opening 14	1800	850	fixed	0.0	N	No

Roof window* *type and performance value*

Default* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2040	820	100.0	E
Garage	2400	3200	100.0	N
Kitchen/ Living	2340	870	100.0	W

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	FR5 - Brick Veneer	0.5	Medium		No

*Refer to glossary.

2	FR5 - Double Brick	0.5	Medium		No
3	Gyprock Party Wall + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5);Glass fibre batt: R2.5 (R2.5)	No
4	Brick Veneer + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
5	75mm Expanded Polystyrene Clad + R2.5	0.5	Medium	Polystyrene expanded (k = 0.039) (R1.9);Glass fibre batt: R2.5 (R2.5)	Yes
6	Fibro Clad + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Garage	1	2790	3482	S	0	No
Garage	1	2790	1204	E	0	Yes
Garage	2	2790	3480	N	0	Yes
Garage	3	2790	5982	W	0	No
Bathroom	4	2700	1872	S	0	Yes
Bedroom 2	4	2700	2977	S	0	Yes
Kitchen/ Living	4	2700	5958	N	0	No
Kitchen/ Living	4	2700	1202	W	1350	Yes
Kitchen/ Living	4	2700	1346	N	1200	Yes
Kitchen/ Living	4	2700	417	W	0	Yes
Kitchen/ Living	4	2700	2232	S	0	Yes
Kitchen/ Living	4	2700	6396	E	0	Yes
Bathroom	5	2700	1769	E	0	No
Bathroom	5	2700	3676	S	0	No
Bedroom 1	5	2700	3678	E	0	No
Bedroom 1	5	2700	3167	N	0	No
Bedroom 1 Robe	6	2700	1510	N	0	No
Study Nook	5	2700	2522	N	228	Yes
Study Nook	5	2700	3668	W	0	No
Study Nook	5	2700	2522	S	0	No
Retreart	5	2700	3507	S	0	No
Retreart	5	2700	305	E	0	Yes
Retreart	6	2700	1000	W	0	Yes
Void	6	2700	2380	N	0	No
Void	6	2700	1085	W	0	Yes

*Refer to glossary.

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	33.7	Glass fibre batt: R2.5 (R2.5)
2	FR5 - Internal Plasterboard Stud Wall	72.4	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	10.6	Enclosed	R0.0	none
Garage	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	10.3	Enclosed	R0.0	none
Bathroom	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	4.6	Enclosed	R0.0	Tiles
Bathroom	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	1	Enclosed	R0.0	Tiles
Bedroom 2	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	8.8	Enclosed	R0.0	Carpet
Bedroom 2	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	1.1	Enclosed	R0.0	Carpet
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	1.4	Enclosed	R0.0	Timber
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	26.9	Enclosed	R0.0	Timber
Bathroom	Timber Floor Plasterboard Under	6.5	Enclosed	R0.0	Tiles
Laundry	Timber Floor Plasterboard Under	1.4	Enclosed	R0.0	Tiles
Bedroom 1	Timber Floor Plasterboard Under	12.4	Enclosed	R0.0	Carpet
Bedroom 1 Robe	Timber Floor Plasterboard Under	3.3	Enclosed	R0.0	Carpet
Study Nook	Timber Floor Plasteboard Under + R2.5	9.3	Enclosed	R2.5	Carpet
Retreart	Timber Floor Plasterboard Under	13.1	Enclosed	R0.0	Carpet
Void	No Floor	1	Elevated	R2.5	No Floor
Void	No Floor	1.6	Enclosed	R0.0	No Floor

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Garage	Timber Floor Plasteboard Under + R2.5	R2.5	No

*Refer to glossary.

Garage	Plasterboard	R0.0	Yes
Bathroom	Timber Floor Plasterboard Under	R0.0	No
Bathroom	Plasterboard	R5.0	Yes
Bedroom 2	Timber Floor Plasterboard Under	R0.0	No
Bedroom 2	Plasterboard	R5.0	Yes
Kitchen/ Living	Plasterboard	R5.0	Yes
Kitchen/ Living	Timber Floor Plasterboard Under	R0.0	No
Bathroom	Plasterboard	R5.0	Yes
Laundry	Plasterboard	R5.0	Yes
Bedroom 1	Plasterboard	R5.0	Yes
Bedroom 1 Robe	Plasterboard	R5.0	Yes
Study Nook	Plasterboard	R5.0	Yes
Retreart	Plasterboard	R5.0	Yes
Void	Plasterboard	R5.0	Yes
Void	Plasterboard	R5.0	Yes

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Bathroom	1	Exhaust Fans	250	250	Sealed
Bathroom	2	Downlights	0	0	Sealed
Bedroom 2	2	Downlights	0	0	Sealed
Kitchen/ Living	1	Exhaust Fans	250	250	Sealed
Kitchen/ Living	12	Downlights	0	0	Sealed
Bathroom	1	Exhaust Fans	250	250	Sealed
Bathroom	3	Downlights	0	0	Sealed
Laundry	1	Exhaust Fans	250	250	Sealed
Laundry	1	Downlights	0	0	Sealed
Bedroom 1	4	Downlights	0	0	Sealed
Bedroom 1 Robe	1	Downlights	0	0	Sealed
Study Nook	2	Downlights	0	0	Sealed
Retreart	7	Downlights	0	0	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

*Refer to glossary.

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

Nationwide House Energy Rating Scheme® NatHERS® Certificate

Generated on 22 Jul 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	7, 7/17-19 Bloomfield avenue, Maribyrnong, VIC, 3032
Lot/DP	-
NCC Class*	Class 1a
Floor/all Floors Type	New Home

Plans

Main plan	TP 9.07.25
Prepared by	Jontian Group

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	85.2	suburban
Unconditioned*	26.3	**NatHERS climate zone**
Total	111.5	60 Tullamarine
Garage	20.8	

Accredited assessor

Name	Odin Solutions
Business name	Odin Solutions
Email	odinsolutions@outlook.com
Phone	0416378099
Accreditation No.	HERA10312
Assessor Accrediting Organisation	HERA
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 2
State/Territory variation	Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	76.4	21.6
Load limits	95	27

Features determining load limits

Floor type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	N
Outdoor living area	N
Outdoor living area ceiling fan	N

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA – not applicable

Outdoor living area:

- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

No colours were specified, therefore the following options have been used:

Exterior wall colours have been modelled as '0.5'

Internal wall colours have been modelled as '0.5'

The roof colour has been modelled as '0.5'

The ceiling colour has been modelled as '0.5'.

IC Rated LED downlights to be used throughout.

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Garage	garage	20.8
Bathroom	unconditioned	5.6
Bedroom 2	bedroom	10
Kitchen/ Living	kitchen	28.2
Bathroom	dayTime	6.5
Laundry	dayTime	1.4
Bedroom 1	bedroom	12.4
Bedroom 1 Robe	nightTime	3.3
Study Nook	dayTime	9.2
Retreat	living	16

Window and glazed door *type and performance*

Default* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
A&L-004-13 A	Al Awning Window DG 4/10Ar/4EA	2.85	0.51	0.48	0.54
A&L-013-05 A	Al Sliding Door DG 4/10Ar/4EA	2.79	0.6	0.57	0.63
A&L-026-13 A	Al Boutique Fixed Lite Window DG 4/10Ar/4EA	2.26	0.62	0.59	0.65

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bathroom	A&L-004-13 A	Opening 19	400	1200	awning	90.0	S	No
Bedroom 2	A&L-004-13 A	Opening 20	1200	1800	awning	45.0	S	No
Kitchen/ Living	A&L-013-05 A	Opening 13	2400	3000	sliding	30.0	W	Yes
Kitchen/ Living	A&L-026-13 A	Opening 14	600	1800	awning	90.0	W	No
Kitchen/ Living	A&L-004-13 A	Opening 10	600	850	awning	90.0	N	No
Kitchen/ Living	A&L-004-13 A	Opening 12	2100	2400	awning	30.0	N	Yes
Bathroom	A&L-004-13 A	Opening 21	900	600	awning	90.0	S	No
Bedroom 1	A&L-004-13 A	Opening 17	1200	2100	awning	45.0	N	No

*Refer to glossary.

Bedroom 1	A&L-004-13 A	Opening 15	1200	1200	awning	90.0	W	No
Study Nook	A&L-004-13 A	Opening 18	1800	1200	awning	90.0	N	No
Retreat	A&L-026-13 A	Opening 16	1800	900	fixed	0.0	N	Yes
Retreat	A&L-004-13 A	Opening 22	1500	2100	awning	45.0	S	No

Roof window* *type and performance value*

Default* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2400	3200	100.0	N
Garage	2040	820	100.0	W
Kitchen/ Living	2340	870	100.0	E

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	FR5 - Brick Veneer	0.5	Medium		No
2	FR5 - Double Brick	0.5	Medium		No

*Refer to glossary.

3	Brick Veneer + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
4	75mm Expanded Polystyrene Clad + R2.5	0.5	Medium	Polystyrene expanded (k = 0.039) (R1.9);Glass fibre batt: R2.5 (R2.5)	Yes
5	Fibro Clad + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Garage	1	2790	5979	E	0	No
Garage	2	2790	3473	N	0	Yes
Garage	1	2790	1202	W	0	Yes
Garage	1	2790	3475	S	0	No
Bathroom	3	2700	1872	S	0	Yes
Bedroom 2	3	2700	2976	S	0	Yes
Kitchen/ Living	3	2700	6394	W	0	Yes
Kitchen/ Living	3	2700	2221	S	0	Yes
Kitchen/ Living	3	2700	417	E	0	Yes
Kitchen/ Living	3	2700	1348	N	1200	Yes
Kitchen/ Living	3	2700	1200	E	1350	Yes
Kitchen/ Living	3	2700	5956	N	0	Yes
Bathroom	4	2700	3675	S	0	No
Bathroom	4	2700	1771	W	0	No
Bedroom 1	4	2700	3177	N	0	No
Bedroom 1	4	2700	3676	W	0	No
Bedroom 1 Robe	5	2700	1513	N	0	No
Study Nook	5	2700	2514	S	0	No
Study Nook	5	2700	3669	E	0	No
Study Nook	5	2700	2515	N	300	Yes
Retreat	5	2700	2397	N	0	No
Retreat	5	2700	305	W	0	Yes
Retreat	5	2700	3516	S	0	No
Retreat	5	2700	2202	E	0	Yes

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	12.6	Glass fibre batt: R2.5 (R2.5)
2	FR5 - Internal Plasterboard Stud Wall	87.5	

*Refer to glossary.

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	10.6	Enclosed	R0.0	none
Garage	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	10.2	Enclosed	R0.0	none
Bathroom	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	4.5	Enclosed	R0.0	Tiles
Bathroom	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	1	Enclosed	R0.0	Tiles
Bedroom 2	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	8.8	Enclosed	R0.0	Carpet
Bedroom 2	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	1.1	Enclosed	R0.0	Carpet
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	1.4	Enclosed	R0.0	Timber
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	26.8	Enclosed	R0.0	Timber
Bathroom	Timber Floor Plasterboard Under	6.5	Enclosed	R0.0	Tiles
Laundry	Timber Floor Plasterboard Under	1.4	Enclosed	R0.0	Tiles
Bedroom 1	Timber Floor Plasterboard Under	12.4	Enclosed	R0.0	Carpet
Bedroom 1 Robe	Timber Floor Plasterboard Under	3.3	Enclosed	R0.0	Carpet
Study Nook	Timber Floor Plasteboard Under + R2.5	9.2	Enclosed	R2.5	Carpet
Retreat	Timber Floor Plasterboard Under	14.9	Enclosed	R0.0	Carpet
Retreat	Timber Floor Fibro Under + R2.5	1	Elevated	R2.5	Carpet

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Garage	Timber Floor Plasteboard Under + R2.5	R2.5	No
Garage	Plasterboard	R0.0	Yes
Bathroom	Timber Floor Plasterboard Under	R0.0	No
Bathroom	Plasterboard	R5.0	Yes
Bedroom 2	Timber Floor Plasterboard Under	R0.0	No

*Refer to glossary.

Bedroom 2	Plasterboard	R5.0	Yes
Kitchen/ Living	Plasterboard	R5.0	Yes
Kitchen/ Living	Timber Floor Plasterboard Under	R0.0	No
Bathroom	Plasterboard	R5.0	Yes
Laundry	Plasterboard	R5.0	Yes
Bedroom 1	Plasterboard	R5.0	Yes
Bedroom 1 Robe	Plasterboard	R5.0	Yes
Study Nook	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Bathroom	1	Exhaust Fans	250	250	Sealed
Bathroom	2	Downlights	0	0	Sealed
Bedroom 2	2	Downlights	0	0	Sealed
Kitchen/ Living	1	Exhaust Fans	250	250	Sealed
Kitchen/ Living	12	Downlights	0	0	Sealed
Bathroom	1	Exhaust Fans	250	250	Sealed
Bathroom	3	Downlights	0	0	Sealed
Laundry	1	Exhaust Fans	250	250	Sealed
Laundry	1	Downlights	0	0	Sealed
Bedroom 1	4	Downlights	0	0	Sealed
Bedroom 1 Robe	1	Downlights	0	0	Sealed
Study Nook	2	Downlights	0	0	Sealed
Retreat	7	Downlights	0	0	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]

*Refer to glossary.

No Data Available

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

Nationwide House Energy Rating Scheme® NatHERS® Certificate

Generated on 22 Jul 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	8, 8/17-19 Bloomfield avenue, Maribyrnong, VIC, 3032
Lot/DP	-
NCC Class*	Class 1a
Floor/all Floors Type	New Home

Plans

Main plan	TP 9.07.25
Prepared by	Jontian Group

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	90.9	suburban
Unconditioned*	24.3	**NatHERS climate zone**
Total	115.2	60 Tullamarine
Garage	20.7	

Accredited assessor

Name	Odin Solutions
Business name	Odin Solutions
Email	odinsolutions@outlook.com
Phone	0416378099
Accreditation No.	HERA10312
Assessor Accrediting Organisation	HERA
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 2
State/Territory variation	Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	76.1	22.9
Load limits	95	27

Features determining load limits

Floor type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	N
Outdoor living area	N
Outdoor living area ceiling fan	N

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA – not applicable

Outdoor living area:

- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

No colours were specified, therefore the following options have been used:

Exterior wall colours have been modelled as '0.5'

Internal wall colours have been modelled as '0.5'

The roof colour has been modelled as '0.5'

The ceiling colour has been modelled as '0.5'.

IC Rated LED downlights to be used throughout.

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Garage	garage	20.7
Powder	unconditioned	3.6
Laundry	dayTime	1.2
Kitchen/ Living	kitchen	35.2
Bedroom 1	bedroom	12.9
Bedroom 1 Robe	nightTime	5.2
Bedroom 1 Ensuite	nightTime	5.5
Bedroom 2	bedroom	11.9
Bedroom 2 Robe	nightTime	3.2
Bathroom	nightTime	5.1
Retreat	living	17.3
Void	doubleHeightVoid	1.1

Window and glazed door *type and performance*

Default* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
A&L-004-09 A	Al Awning Window DG 4/10/4	3.58	0.54	0.51	0.57
A&L-026-09 A	Al Boutique Fixed Lite Window DG 4/10/4	3.18	0.67	0.64	0.7
A&L-013-05 A	Al Sliding Door DG 4/10Ar/4EA	2.79	0.6	0.57	0.63

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Powder	A&L-004-09 A	Opening 19	900	600	awning	90.0	W	No
Kitchen/ Living	A&L-026-09 A	Opening 23	600	1800	fixed	0.0	S	No
Kitchen/ Living	A&L-004-09 A	Opening 14	900	1500	awning	45.0	E	No
Kitchen/ Living	A&L-013-05 A	Opening 18	2400	3000	sliding	30.0	W	No
Bedroom 1	A&L-004-09 A	Opening 17	1800	1200	awning	90.0	E	No

*Refer to glossary.

Bedroom 1 Ensuite	A&L-004-09 A	Opening 22	400	900	awning	90.0	W	No
Bedroom 2	A&L-004-09 A	Opening 15	1500	1800	awning	45.0	E	No
Bathroom	A&L-004-09 A	Opening 20	1200	600	awning	90.0	W	No
Retreat	A&L-004-09 A	Opening 21	600	2100	awning	90.0	W	No
Void	A&L-026-09 A	Opening 16	1800	600	fixed	0.0	E	No

Roof window* *type and performance value*

Default* roof windows

				Substitution tolerance ranges	
Window ID	**Window description**	**Maximum U-value***	**SHGC***	SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

				Substitution tolerance ranges	
Window ID	**Window description**	**Maximum U-value***	**SHGC***	SHGC lower limit	SHGC upper limit
Velux:VEL-010-01 W	VELUX VS - Ventilating Skylight DG 3mm LoE 366 / 8.5mm Argon Gap / 5.36mm Clear La	2.53	0.21	0.2	0.22

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
Retreat	Velux:VEL-010-01 W	Element 1	0.0	0.7	0	N	None	None

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2400	3000	100.0	E
Kitchen/ Living	2340	870	100.0	E

External wall *type*

*Refer to glossary.

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	Gyprock Party Wall + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5);Glass fibre batt: R2.5 (R2.5)	No
2	FR5 - Double Brick	0.5	Medium		No
3	Brick Veneer + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
4	Fibro Clad + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
5	75mm Expanded Polystyrene Clad + R2.5	0.5	Medium	Polystyrene expanded (k = 0.039) (R1.9);Glass fibre batt: R2.5 (R2.5)	Yes

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Garage	1	2790	5973	N	0	No
Garage	2	2790	3473	E	1062	Yes
Powder	1	2700	1908	N	0	No
Powder	3	2700	1874	W	0	Yes
Laundry	3	2700	1483	W	0	Yes
Kitchen/ Living	3	2700	8386	S	0	No
Kitchen/ Living	3	2700	2669	E	0	Yes
Kitchen/ Living	3	2700	398	N	4830	Yes
Kitchen/ Living	3	2700	1406	E	1050	Yes
Kitchen/ Living	3	2700	4072	W	0	Yes
Bedroom 1	4	2700	1151	S	0	Yes
Bedroom 1	4	2700	3473	E	300	Yes
Bedroom 1	1	2700	3574	N	0	No
Bedroom 1 Robe	1	2700	2180	N	0	No
Bedroom 1 Ensuite	1	2700	3158	N	0	No
Bedroom 1 Ensuite	5	2700	1474	W	0	Yes
Bedroom 2	4	2700	399	N	0	Yes
Bedroom 2	4	2700	3379	S	0	No
Bedroom 2	4	2700	2981	E	0	Yes
Bedroom 2 Robe	4	2700	1710	S	0	No
Bathroom	4	2700	1888	W	0	Yes
Bathroom	4	2700	2676	S	0	No
Retreat	5	2700	4076	W	0	Yes
Retreat	5	2700	398	S	0	Yes

*Refer to glossary.

Void	5	2700	984	E	0	Yes

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	30	Glass fibre batt: R2.5 (R2.5)
2	FR5 - Internal Plasterboard Stud Wall	85.1	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	20.7	Enclosed	R0.0	none
Powder	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	3.6	Enclosed	R0.0	Tiles
Laundry	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	1.2	Enclosed	R0.0	Tiles
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	34.8	Enclosed	R0.0	Timber
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	0.4	Enclosed	R0.0	Timber
Bedroom 1	Timber Floor Fibro Under + R2.5	3.2	Elevated	R2.5	Carpet
Bedroom 1	Timber Floor Plasteboard Under + R2.5	9.8	Enclosed	R2.5	Carpet
Bedroom 1 Robe	Timber Floor Plasteboard Under + R2.5	5.2	Enclosed	R2.5	Carpet
Bedroom 1 Ensuite	Timber Floor Plasterboard Under	2.8	Enclosed	R0.0	Tiles
Bedroom 1 Ensuite	Timber Floor Plasteboard Under + R2.5	2.6	Enclosed	R2.5	Tiles
Bedroom 2	Timber Floor Plasterboard Under	11.9	Enclosed	R0.0	Carpet
Bedroom 2	Timber Floor Fibro Under + R2.5	0	Elevated	R2.5	Carpet
Bedroom 2 Robe	Timber Floor Plasterboard Under	3.2	Enclosed	R0.0	Carpet
Bathroom	Timber Floor Plasterboard Under	5.1	Enclosed	R0.0	Tiles
Retreat	Timber Floor Plasteboard Under + R2.5	3.5	Enclosed	R2.5	Carpet
Retreat	Timber Floor Plasterboard Under	13.8	Enclosed	R0.0	Carpet
Void	No Floor	1.1	Enclosed	R0.0	No Floor

Ceiling *type*

*Refer to glossary.

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Garage	Timber Floor Plasteboard Under + R2.5	R2.5	No
Powder	Timber Floor Plasterboard Under	R0.0	No
Powder	Timber Floor Plasteboard Under + R2.5	R2.5	No
Laundry	Timber Floor Plasterboard Under	R0.0	No
Kitchen/ Living	Timber Floor Plasterboard Under	R0.0	No
Kitchen/ Living	Timber Floor Plasteboard Under + R2.5	R2.5	No
Bedroom 1	Plasterboard	R5.0	Yes
Bedroom 1	Plasterboard	R5.0	Yes
Bedroom 1 Robe	Plasterboard	R5.0	Yes
Bedroom 1 Ensuite	Plasterboard	R5.0	Yes
Bedroom 1 Ensuite	Plasterboard	R5.0	Yes
Bedroom 2	Plasterboard	R5.0	Yes
Bedroom 2 Robe	Plasterboard	R5.0	Yes
Bathroom	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes
Void	Plasterboard	R5.0	Yes

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Powder	1	Exhaust Fans	250	250	Sealed
Powder	1	Downlights	0	0	Sealed
Laundry	1	Exhaust Fans	250	250	Sealed
Laundry	1	Downlights	0	0	Sealed
Kitchen/ Living	1	Exhaust Fans	250	250	Sealed
Kitchen/ Living	14	Downlights	0	0	Unsealed
Bedroom 1	4	Downlights	0	0	Sealed
Bedroom 1 Robe	1	Downlights	0	0	Sealed
Bedroom 1 Ensuite	1	Exhaust Fans	250	250	Sealed
Bedroom 1 Ensuite	2	Downlights	0	0	Sealed
Bedroom 2	4	Downlights	0	0	Sealed

*Refer to glossary.

Bedroom 2 Robe	1	Downlights	0	0	Sealed
Bathroom	1	Exhaust Fans	250	250	Sealed
Bathroom	2	Downlights	0	0	Sealed
Retreat	7	Downlights	0	0	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

*Refer to glossary.

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

Nationwide House Energy Rating Scheme® NatHERS® Certificate

Generated on 22 Jul 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	9, 9/17-19 Bloomfield avenue, Maribyrnong, VIC, 3032
Lot/DP	-
NCC Class*	Class 1a
Floor/all Floors Type	New Home

Plans

Main plan	TP 9.07.25
Prepared by	Jontian Group

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	90.8	suburban
Unconditioned*	24.3	**NatHERS climate zone**
Total	115.1	60 Tullamarine
Garage	20.8	

Accredited assessor

Name	Odin Solutions
Business name	Odin Solutions
Email	odinsolutions@outlook.com
Phone	0416378099
Accreditation No.	HERA10312
Assessor Accrediting Organisation	HERA
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 2
State/Territory variation	Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	76	18.7
Load limits	95	27

Features determining load limits

Floor type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	N
Outdoor living area	N
Outdoor living area ceiling fan	N

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:
- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:
- Yes
- No
- NA – not applicable

Outdoor living area:
- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:
- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

No colours were specified, therefore the following options have been used:

Exterior wall colours have been modelled as '0.5'

Internal wall colours have been modelled as '0.5'

The roof colour has been modelled as '0.5'

The ceiling colour has been modelled as '0.5'.

IC Rated LED downlights to be used throughout.

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Garage	garage	20.8
Powder	unconditioned	3.6
Laundry	dayTime	1.2
Kitchen/ Living	kitchen	35.1
Bedroom 1	bedroom	12.9
Bedroom 1 Robe	nightTime	5.2
Bedroom 1 Ensuite	nightTime	5.5
Bedroom 2	bedroom	11.9
Bedroom 2 Robe	nightTime	3.2
Bathroom	nightTime	5.1
Retreat	living	17.3
Void	doubleHeightVoid	1.1

Window and glazed door *type and performance*

Default* windows

				Substitution tolerance ranges	
Window ID	Window description	Maximum U-value*	SHGC*	SHGC lower limit	SHGC upper limit
No Data Available					

Custom* windows

				Substitution tolerance ranges	
Window ID	Window description	Maximum U-value*	SHGC*	SHGC lower limit	SHGC upper limit
A&L-004-09 A	Al Awning Window DG 4/10/4	3.58	0.54	0.51	0.57
A&L-013-01 A	Al Sliding Door DG 4/10/4	3.65	0.63	0.6	0.66
A&L-026-09 A	Al Boutique Fixed Lite Window DG 4/10/4	3.18	0.67	0.64	0.7

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Powder	A&L-004-09 A	Opening 22	900	600	awning	90.0	W	No
Kitchen/ Living	A&L-013-01 A	Opening 21	2400	3000	sliding	30.0	W	No
Kitchen/ Living	A&L-004-09 A	Opening 6	1200	2100	awning	60.0	E	No
Bedroom 1	A&L-004-09 A	Opening 7	1800	1200	awning	90.0	E	No
Bedroom 1 Ensuite	A&L-004-09 A	Opening 10	400	900	awning	90.0	W	No

*Refer to glossary.

Bedroom 2	A&L-004-09 A	Opening 9	1500	1800	awning	45.0	E	No
Bathroom	A&L-004-09 A	Opening 12	900	600	awning	90.0	W	No
Retreat	A&L-004-09 A	Opening 11	600	2100	awning	90.0	W	No
Void	A&L-026-09 A	Opening 8	1800	600	fixed	0.0	E	No

Roof window* *type and performance value*

Default* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
Velux:VEL-010-01 W	VELUX VS - Ventilating Skylight DG 3mm LoE 366 / 8.5mm Argon Gap / 5.36mm Clear La	2.53	0.21	0.2	0.22

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
Retreat	Velux:VEL-010-01 W	Element 1	0.0	0.7	0	N	None	None

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2400	3000	100.0	E
Kitchen/ Living	2340	870	100.0	E

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*

*Refer to glossary.

1	Gyprock Party Wall + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5);Glass fibre batt: R2.5 (R2.5)	No
2	FR5 - Double Brick	0.5	Medium		No
3	Brick Veneer + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
4	Fibro Clad + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
5	75mm Expanded Polystyrene Clad + R2.5	0.5	Medium	Polystyrene expanded (k = 0.039) (R1.9);Glass fibre batt: R2.5 (R2.5)	Yes

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Garage	1	2790	5971	S	0	No
Garage	2	2790	3476	E	1065	Yes
Powder	1	2700	1910	S	0	No
Powder	3	2700	1874	W	0	Yes
Laundry	3	2700	1484	W	0	Yes
Kitchen/ Living	1	2700	8386	N	0	No
Kitchen/ Living	3	2700	4068	W	0	Yes
Kitchen/ Living	3	2700	1396	E	1050	Yes
Kitchen/ Living	3	2700	398	S	4830	Yes
Kitchen/ Living	3	2700	2670	E	0	Yes
Bedroom 1	4	2700	3473	E	300	Yes
Bedroom 1	4	2700	1153	N	0	Yes
Bedroom 1	1	2700	3575	S	0	No
Bedroom 1 Robe	1	2700	2179	S	0	No
Bedroom 1 Ensuite	1	2700	3159	S	0	No
Bedroom 1 Ensuite	5	2700	1474	W	0	Yes
Bedroom 2	4	2700	2980	E	0	Yes
Bedroom 2	1	2700	3379	N	0	No
Bedroom 2	4	2700	398	S	0	Yes
Bedroom 2 Robe	1	2700	1712	N	0	No
Bathroom	1	2700	2676	N	0	No
Bathroom	4	2700	1887	W	0	Yes
Retreat	5	2700	399	N	0	Yes
Retreat	5	2700	4075	W	0	Yes
Void	5	2700	975	E	0	Yes

*Refer to glossary.

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	30	Glass fibre batt: R2.5 (R2.5)
2	FR5 - Internal Plasterboard Stud Wall	84.9	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	20.8	Enclosed	R0.0	none
Powder	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	3.6	Enclosed	R0.0	Tiles
Laundry	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	1.2	Enclosed	R0.0	Tiles
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	0.5	Enclosed	R0.0	Timber
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	34.7	Enclosed	R0.0	Timber
Bedroom 1	Timber Floor Plasteboard Under + R2.5	9.8	Enclosed	R2.5	Carpet
Bedroom 1	Timber Floor Fibro Under + R2.5	3.2	Elevated	R2.5	Carpet
Bedroom 1 Robe	Timber Floor Plasteboard Under + R2.5	5.2	Enclosed	R2.5	Carpet
Bedroom 1 Ensuite	Timber Floor Plasteboard Under + R2.5	2.6	Enclosed	R2.5	Tiles
Bedroom 1 Ensuite	Timber Floor Plasterboard Under	2.8	Enclosed	R0.0	Tiles
Bedroom 2	Timber Floor Plasterboard Under	11.9	Enclosed	R0.0	Carpet
Bedroom 2	Timber Floor Fibro Under + R2.5	0	Elevated	R2.5	Carpet
Bedroom 2 Robe	Timber Floor Plasterboard Under	3.2	Enclosed	R0.0	Carpet
Bathroom	Timber Floor Plasterboard Under	5.1	Enclosed	R0.0	Tiles
Retreat	Timber Floor Plasterboard Under	13.8	Enclosed	R0.0	Carpet
Retreat	Timber Floor Plasteboard Under + R2.5	3.6	Enclosed	R2.5	Carpet
Void	No Floor	1.1	Enclosed	R0.0	No Floor
Void	No Floor	0	Enclosed	R0.0	No Floor

Ceiling *type*

*Refer to glossary.

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Garage	Timber Floor Plasteboard Under + R2.5	R2.5	No
Powder	Timber Floor Plasterboard Under	R0.0	No
Laundry	Timber Floor Plasterboard Under	R0.0	No
Kitchen/ Living	Timber Floor Plasterboard Under	R0.0	No
Kitchen/ Living	Timber Floor Plasteboard Under + R2.5	R2.5	No
Bedroom 1	Plasterboard	R5.0	Yes
Bedroom 1	Plasterboard	R5.0	Yes
Bedroom 1 Robe	Plasterboard	R5.0	Yes
Bedroom 1 Ensuite	Plasterboard	R5.0	Yes
Bedroom 1 Ensuite	Plasterboard	R5.0	Yes
Bedroom 2	Plasterboard	R5.0	Yes
Bedroom 2 Robe	Plasterboard	R5.0	Yes
Bathroom	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes
Void	Plasterboard	R5.0	Yes

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Powder	1	Exhaust Fans	250	250	Sealed
Powder	1	Downlights	0	0	Sealed
Laundry	1	Exhaust Fans	250	250	Sealed
Laundry	1	Downlights	0	0	Sealed
Kitchen/ Living	1	Exhaust Fans	250	250	Sealed
Kitchen/ Living	14	Downlights	0	0	Sealed
Bedroom 1	4	Downlights	0	0	Sealed
Bedroom 1 Robe	1	Downlights	0	0	Sealed
Bedroom 1 Ensuite	1	Exhaust Fans	250	250	Sealed
Bedroom 1 Ensuite	2	Downlights	0	0	Sealed
Bedroom 2	4	Downlights	0	0	Sealed
Bedroom 2 Robe	1	Downlights	0	0	Sealed
Bathroom	1	Exhaust Fans	250	250	Sealed
Bathroom	2	Downlights	0	0	Sealed

*Refer to glossary.

Retreat	7	Downlights	0	0	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

Nationwide House Energy Rating Scheme®
NatHERS® Certificate

Generated on 22 Jul 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	10, 10/17-19 Bloomfield avenue, Maribyrnong, VIC, 3032
Lot/DP	-
NCC Class*	Class 1a
Floor/all Floors Type	New Home

Plans

Main plan	TP 9.07.25
Prepared by	Jontian Group

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	90.6	suburban
Unconditioned*	24.3	**NatHERS climate zone**
Total	114.9	60 Tullamarine
Garage	20.7	

Accredited assessor

Name	Odin Solutions
Business name	Odin Solutions
Email	odinsolutions@outlook.com
Phone	0416378099
Accreditation No.	HERA10312
Assessor Accrediting Organisation	HERA
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 2
State/Territory variation	Yes

National Construction Code (NCC) requirements

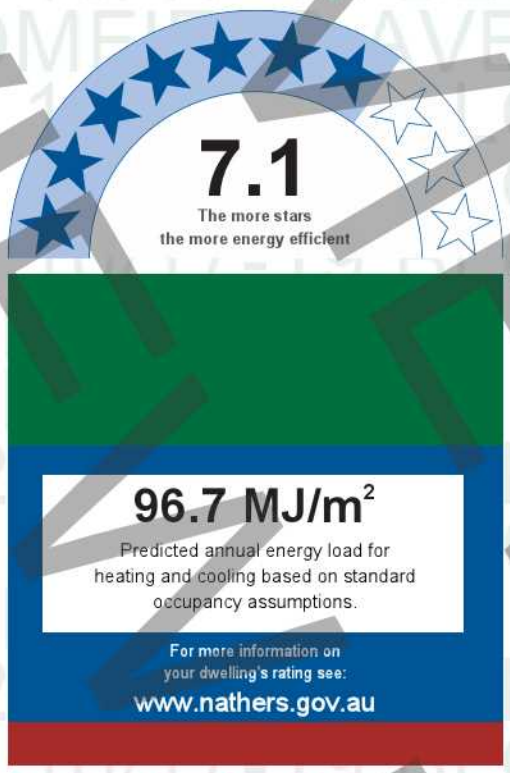
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating



Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	74	22.7
Load limits	95	27

Features determining load limits

Floor type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	N
Outdoor living area	N
Outdoor living area ceiling fan	N

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:
- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:
- Yes
- No
- NA – not applicable

Outdoor living area:
- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:
- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

No colours were specified, therefore the following options have been used:

Exterior wall colours have been modelled as '0.5'

Internal wall colours have been modelled as '0.5'

The roof colour has been modelled as '0.5'

The ceiling colour has been modelled as '0.5'.

IC Rated LED downlights to be used throughout.

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Garage	garage	20.7
Powder	unconditioned	3.6
Laundry	dayTime	1.2
Kitchen/ Living	kitchen	35.1
Bedroom 1	bedroom	12.9
Bedroom 1 Robe	nightTime	5.2
Bedroom 1 Ensuite	nightTime	5.4
Bedroom 2	bedroom	11.8
Bedroom 2 Robe	nightTime	3.2
Bathroom	nightTime	5
Retreat	living	17.3
Void	doubleHeightVoid	1.1

Window and glazed door *type and performance*

Default* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
A&L-001-04 A	Al Awning SG 4Clr	5.79	0.65	0.62	0.68
A&L-004-09 A	Al Awning Window DG 4/10/4	3.58	0.54	0.51	0.57
A&L-013-01 A	Al Sliding Door DG 4/10/4	3.65	0.63	0.6	0.66
A&L-026-09 A	Al Boutique Fixed Lite Window DG 4/10/4	3.18	0.67	0.64	0.7

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Powder	A&L-001-04 A	Opening 16	900	600	awning	90.0	W	No
Kitchen/ Living	A&L-004-09 A	Opening 19	900	2100	awning	45.0	E	No
Kitchen/ Living	A&L-013-01 A	Opening 15	2400	3000	sliding	30.0	W	No
Bedroom 1	A&L-004-09 A	Opening 22	1800	1200	awning	90.0	E	No

*Refer to glossary.

Bedroom 1 Ensuite	A&L-004-09 A	Opening 14	400	900	awning	90.0	W	No
Bedroom 2	A&L-004-09 A	Opening 20	1500	1800	awning	45.0	E	No
Bathroom	A&L-004-09 A	Opening 12	1200	600	awning	90.0	W	No
Retreat	A&L-004-09 A	Opening 13	600	2100	awning	90.0	W	No
Void	A&L-026-09 A	Opening 21	1800	600	fixed	0.0	E	No

Roof window* *type and performance value*

Default* roof windows

				Substitution tolerance ranges	
Window ID	**Window description**	**Maximum U-value***	**SHGC***	SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

				Substitution tolerance ranges	
Window ID	**Window description**	**Maximum U-value***	**SHGC***	SHGC lower limit	SHGC upper limit
Velux:VEL-010-01 W	VELUX VS - Ventilating Skylight DG 3mm LoE 366 / 8.5mm Argon Gap / 5.36mm Clear La	2.53	0.21	0.2	0.22

Roof window* *schedule*

Location	**Window ID**	**Window no.**	**Opening %**	**Area [m²]**	**Width [mm]**	**Orientation**	**Outdoor shade**	**Indoor shade**
Retreat	Velux:VEL-010-01 W	Element 1	0.0	0.7	0	N	None	None

Skylight* *type and performance*

Skylight ID	**Skylight description**	**Skylight shaft reflectance**
No Data Available		

Skylight* *schedule*

Location	**Skylight ID**	**Skylight No.**	**Skylight shaft length [mm]**	**Area [m²]**	**Orient-ation**	**Outdoor shade**	**Diffuser**
No Data Available							

External door *schedule*

Location	**Height [mm]**	**Width [mm]**	**Opening %**	**Orientation**
Garage	2400	3000	100.0	E
Kitchen/ Living	2340	870	100.0	E

External wall *type*

*Refer to glossary.

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	Gyprock Party Wall + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5);Glass fibre batt: R2.5 (R2.5)	No
2	FR5 - Double Brick	0.5	Medium		No
3	Brick Veneer + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
4	Fibro Clad + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
5	75mm Expanded Polystyrene Clad + R2.5	0.5	Medium	Polystyrene expanded (k = 0.039) (R1.9);Glass fibre batt: R2.5 (R2.5)	Yes

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Garage	1	2790	5972	N	0	No
Garage	2	2790	3473	E	1065	Yes
Powder	1	2700	1908	N	0	No
Powder	3	2700	1864	W	0	Yes
Laundry	3	2700	1484	W	0	Yes
Kitchen/ Living	1	2700	8385	S	0	No
Kitchen/ Living	3	2700	2660	E	0	Yes
Kitchen/ Living	3	2700	397	N	4830	Yes
Kitchen/ Living	3	2700	1407	E	1050	Yes
Kitchen/ Living	3	2700	4067	W	0	Yes
Bedroom 1	4	2700	1153	S	0	Yes
Bedroom 1	4	2700	3473	E	300	Yes
Bedroom 1	1	2700	3575	N	0	No
Bedroom 1 Robe	1	2700	2179	N	0	No
Bedroom 1 Ensuite	5	2700	1467	W	0	Yes
Bedroom 1 Ensuite	1	2700	3158	N	0	No
Bedroom 2	4	2700	398	N	0	Yes
Bedroom 2	1	2700	3379	S	0	No
Bedroom 2	4	2700	2973	E	0	Yes
Bedroom 2 Robe	1	2700	1712	S	0	No
Bathroom	1	2700	2675	S	0	No
Bathroom	4	2700	1882	W	0	Yes
Retreat	5	2700	4067	W	0	Yes
Retreat	5	2700	398	S	0	Yes

*Refer to glossary.

Void	5	2700	976	E	0	Yes

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	25.1	Glass fibre batt: R2.5 (R2.5)
2	FR5 - Internal Plasterboard Stud Wall	89.8	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	20.7	Enclosed	R0.0	none
Powder	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	3.6	Enclosed	R0.0	Tiles
Laundry	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	1.2	Enclosed	R0.0	Tiles
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	34.7	Enclosed	R0.0	Timber
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	0.5	Enclosed	R0.0	Timber
Bedroom 1	Timber Floor Fibro Under + R2.5	3.2	Elevated	R2.5	Carpet
Bedroom 1	Timber Floor Plasteboard Under + R2.5	9.8	Enclosed	R2.5	Carpet
Bedroom 1 Robe	Timber Floor Plasteboard Under + R2.5	5.2	Enclosed	R2.5	Carpet
Bedroom 1 Ensuite	Timber Floor Plasteboard Under + R2.5	2.6	Enclosed	R2.5	Tiles
Bedroom 1 Ensuite	Timber Floor Plasterboard Under	2.8	Enclosed	R0.0	Tiles
Bedroom 2	Timber Floor Plasterboard Under	11.8	Enclosed	R0.0	Carpet
Bedroom 2	Timber Floor Fibro Under + R2.5	0	Elevated	R2.5	Carpet
Bedroom 2 Robe	Timber Floor Plasterboard Under	3.2	Enclosed	R0.0	Carpet
Bathroom	Timber Floor Plasterboard Under	5	Enclosed	R0.0	Tiles
Retreat	Timber Floor Plasteboard Under + R2.5	3.5	Enclosed	R2.5	Carpet
Retreat	Timber Floor Plasterboard Under	13.8	Enclosed	R0.0	Carpet
Void	No Floor	1.1	Enclosed	R0.0	No Floor

Ceiling *type*

*Refer to glossary.

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Garage	Timber Floor Plasteboard Under + R2.5	R2.5	No
Powder	Timber Floor Plasteboard Under + R2.5	R2.5	No
Powder	Timber Floor Plasterboard Under	R0.0	No
Laundry	Timber Floor Plasterboard Under	R0.0	No
Kitchen/ Living	Timber Floor Plasterboard Under	R0.0	No
Kitchen/ Living	Timber Floor Plasteboard Under + R2.5	R2.5	No
Bedroom 1	Plasterboard	R5.0	Yes
Bedroom 1	Plasterboard	R5.0	Yes
Bedroom 1 Robe	Plasterboard	R5.0	Yes
Bedroom 1 Ensuite	Plasterboard	R5.0	Yes
Bedroom 1 Ensuite	Plasterboard	R5.0	Yes
Bedroom 2	Plasterboard	R5.0	Yes
Bedroom 2 Robe	Plasterboard	R5.0	Yes
Bathroom	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes
Void	Plasterboard	R5.0	Yes

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Powder	1	Exhaust Fans	250	250	Sealed
Powder	1	Downlights	0	0	Sealed
Laundry	1	Exhaust Fans	250	250	Sealed
Laundry	1	Downlights	0	0	Sealed
Kitchen/ Living	1	Exhaust Fans	250	250	Sealed
Kitchen/ Living	14	Downlights	0	0	Sealed
Bedroom 1	4	Downlights	0	0	Sealed
Bedroom 1 Robe	1	Downlights	0	0	Sealed
Bedroom 1 Ensuite	2	Downlights	0	0	Sealed
Bedroom 1 Ensuite	1	Exhaust Fans	250	250	Sealed
Bedroom 2	4	Downlights	0	0	Sealed

*Refer to glossary.

Bedroom 2 Robe	1	Downlights	0	0	Sealed
Bathroom	1	Exhaust Fans	250	250	Sealed
Bathroom	2	Downlights	0	0	Sealed
Retreat	7	Downlights	0	0	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

Nationwide House Energy Rating Scheme®
NatHERS® Certificate

Generated on 22 Jul 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	11, 11/17-19 Bloomfield avenue, Maribyrnong, VIC, 3032
Lot/DP	-
NCC Class*	Class 1a
Floor/all Floors	
Type	New Home

Plans

Main plan	TP 9.07.25
Prepared by	Jontian Group

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	90.5	suburban
Unconditioned*	24.4	**NatHERS climate zone**
Total	114.9	60 Tullamarine
Garage	20.8	

Accredited assessor

Name	Odin Solutions
Business name	Odin Solutions
Email	odinsolutions@outlook.com
Phone	0416378099
Accreditation No.	HERA10312
Assessor Accrediting Organisation	HERA
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 2
State/Territory variation	Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating

98.9 MJ/m²

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

For more information on your dwelling's rating see:
www.nathers.gov.au

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	76	22.9
Load limits	95	27

Features determining load limits

Floor type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	N
Outdoor living area	N
Outdoor living area ceiling fan	N

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA – not applicable

Outdoor living area:

- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

No colours were specified, therefore the following options have been used:

Exterior wall colours have been modelled as '0.5'

Internal wall colours have been modelled as '0.5'

The roof colour has been modelled as '0.5'

The ceiling colour has been modelled as '0.5'.

IC Rated LED downlights to be used throughout.

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Garage	garage	20.8
Powder	unconditioned	3.6
Laundry	dayTime	1.2
Kitchen/ Living	kitchen	35.1
Bedroom 1	bedroom	12.8
Bedroom 1 Robe	nightTime	5.1
Bedroom 1 Ensuite	nightTime	5.4
Bedroom 2	bedroom	11.8
Bedroom 2 Robe	nightTime	3.2
Bathroom	nightTime	5
Retreat	living	17.3
Void	doubleHeightVoid	1.1

Window and glazed door *type and performance*

Default* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
A&L-004-09 A	Al Awning Window DG 4/10/4	3.58	0.54	0.51	0.57
A&L-013-02 A	Al Sliding Door DG 4/10/4EA	3.04	0.59	0.56	0.62
A&L-004-10 A	Al Awning Window DG 4/10/4EA	3.06	0.5	0.48	0.53
A&L-026-09 A	Al Boutique Fixed Lite Window DG 4/10/4	3.18	0.67	0.64	0.7

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Powder	A&L-004-09 A	Opening 20	900	600	awning	90.0	W	No
Kitchen/ Living	A&L-013-02 A	Opening 21	2400	3000	sliding	30.0	W	No
Kitchen/ Living	A&L-004-10 A	Opening 22	1500	2100	awning	60.0	E	No
Bedroom 1	A&L-004-09 A	Opening 14	1800	1200	awning	90.0	E	No

*Refer to glossary.

Bedroom 1 Ensuite	A&L-004-09 A	Opening 17	400	900	awning	90.0	W	No
Bedroom 2	A&L-004-09 A	Opening 16	1500	1800	awning	45.0	E	No
Bathroom	A&L-004-09 A	Opening 19	1200	600	awning	90.0	W	No
Retreat	A&L-004-10 A	Opening 18	600	2100	awning	90.0	W	No
Void	A&L-026-09 A	Opening 15	1800	600	fixed	0.0	E	No

Roof window* *type and performance value*

Default* roof windows

				Substitution tolerance ranges	
Window ID	**Window description**	**Maximum U-value***	**SHGC***	SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

				Substitution tolerance ranges	
Window ID	**Window description**	**Maximum U-value***	**SHGC***	SHGC lower limit	SHGC upper limit
Velux:VEL-010-01 W	VELUX VS - Ventilating Skylight DG 3mm LoE 366 / 8.5mm Argon Gap / 5.36mm Clear La	2.53	0.21	0.2	0.22

Roof window* *schedule*

Location	**Window ID**	**Window no.**	**Opening %**	**Area [m²]**	**Width [mm]**	**Orientation**	**Outdoor shade**	**Indoor shade**
Retreat	Velux:VEL-010-01 W	Element 1	0.0	0.7	0	N	None	None

Skylight* *type and performance*

Skylight ID	**Skylight description**	**Skylight shaft reflectance**
No Data Available		

Skylight* *schedule*

Location	**Skylight ID**	**Skylight No.**	**Skylight shaft length [mm]**	**Area [m²]**	**Orient-ation**	**Outdoor shade**	**Diffuser**
No Data Available							

External door *schedule*

Location	**Height [mm]**	**Width [mm]**	**Opening %**	**Orientation**
Garage	2400	3000	100.0	E
Kitchen/ Living	2340	870	100.0	E

External wall *type*

*Refer to glossary.

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	Gyprock Party Wall + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5);Glass fibre batt: R2.5 (R2.5)	No
2	FR5 - Double Brick	0.5	Medium		No
3	Brick Veneer + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
4	Fibro Clad + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
5	75mm Expanded Polystyrene Clad + R2.5	0.5	Medium	Polystyrene expanded (k = 0.039) (R1.9);Glass fibre batt: R2.5 (R2.5)	Yes

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Garage	1	2790	5972	S	0	No
Garage	2	2790	3481	E	1065	Yes
Powder	1	2700	1908	S	0	No
Powder	3	2700	1882	W	0	Yes
Laundry	3	2700	1491	W	0	Yes
Kitchen/ Living	3	2700	4356	N	0	Yes
Kitchen/ Living	1	2700	4029	N	0	No
Kitchen/ Living	3	2700	4067	W	0	Yes
Kitchen/ Living	3	2700	1406	E	1050	Yes
Kitchen/ Living	3	2700	397	S	4830	Yes
Kitchen/ Living	3	2700	2660	E	0	Yes
Bedroom 1	1	2700	3574	S	0	No
Bedroom 1	4	2700	3440	E	300	Yes
Bedroom 1	4	2700	1153	N	0	Yes
Bedroom 1 Robe	1	2700	2181	S	0	No
Bedroom 1 Ensuite	1	2700	3162	S	0	No
Bedroom 1 Ensuite	5	2700	1440	W	0	Yes
Bedroom 2	4	2700	2974	E	0	Yes
Bedroom 2	4	2700	3379	N	0	Yes
Bedroom 2	4	2700	397	S	0	Yes
Bedroom 2 Robe	4	2700	1712	N	0	Yes
Bathroom	4	2700	2675	N	0	Yes
Bathroom	4	2700	1881	W	0	Yes
Retreat	5	2700	399	N	0	Yes

*Refer to glossary.

Retreat	5	2700	4076	W	0	Yes
Void	5	2700	974	E	0	Yes

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	30	Glass fibre batt: R2.5 (R2.5)
2	FR5 - Internal Plasterboard Stud Wall	84.8	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	20.8	Enclosed	R0.0	none
Powder	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	3.6	Enclosed	R0.0	Tiles
Laundry	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	1.2	Enclosed	R0.0	Tiles
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	0.4	Enclosed	R0.0	Timber
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	34.7	Enclosed	R0.0	Timber
Bedroom 1	Timber Floor Fibro Under + R2.5	3.1	Elevated	R2.5	Carpet
Bedroom 1	Timber Floor Plasteboard Under + R2.5	9.7	Enclosed	R2.5	Carpet
Bedroom 1 Robe	Timber Floor Plasteboard Under + R2.5	5.1	Enclosed	R2.5	Carpet
Bedroom 1 Ensuite	Timber Floor Plasteboard Under + R2.5	2.6	Enclosed	R2.5	Tiles
Bedroom 1 Ensuite	Timber Floor Plasterboard Under	2.7	Enclosed	R0.0	Tiles
Bedroom 2	Timber Floor Plasterboard Under	11.8	Enclosed	R0.0	Carpet
Bedroom 2	Timber Floor Fibro Under + R2.5	0	Elevated	R2.5	Carpet
Bedroom 2 Robe	Timber Floor Plasterboard Under	3.2	Enclosed	R0.0	Carpet
Bathroom	Timber Floor Plasterboard Under	5	Enclosed	R0.0	Tiles
Retreat	Timber Floor Plasteboard Under + R2.5	3.5	Enclosed	R2.5	Carpet
Retreat	Timber Floor Plasterboard Under	13.8	Enclosed	R0.0	Carpet
Void	No Floor	1.1	Enclosed	R0.0	No Floor

*Refer to glossary.

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Garage	Timber Floor Plasteboard Under + R2.5	R2.5	No
Powder	Timber Floor Plasterboard Under	R0.0	No
Laundry	Timber Floor Plasterboard Under	R0.0	No
Kitchen/ Living	Timber Floor Plasterboard Under	R0.0	No
Bedroom 1	Plasterboard	R5.0	Yes
Bedroom 1	Plasterboard	R5.0	Yes
Bedroom 1 Robe	Plasterboard	R5.0	Yes
Bedroom 1 Ensuite	Plasterboard	R5.0	Yes
Bedroom 1 Ensuite	Plasterboard	R5.0	Yes
Bedroom 2	Plasterboard	R5.0	Yes
Bedroom 2 Robe	Plasterboard	R5.0	Yes
Bathroom	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes
Void	Plasterboard	R5.0	Yes

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Powder	1	Exhaust Fans	250	250	Sealed
Powder	1	Downlights	0	0	Sealed
Laundry	1	Exhaust Fans	250	250	Sealed
Laundry	1	Downlights	0	0	Sealed
Kitchen/ Living	1	Exhaust Fans	250	250	Sealed
Kitchen/ Living	14	Downlights	0	0	Sealed
Bedroom 1	4	Downlights	0	0	Sealed
Bedroom 1 Robe	1	Downlights	0	0	Sealed
Bedroom 1 Ensuite	2	Downlights	0	0	Sealed
Bedroom 1 Ensuite	1	Exhaust Fans	250	250	Sealed
Bedroom 2	4	Downlights	0	0	Sealed
Bedroom 2 Robe	1	Downlights	0	0	Sealed
Bathroom	1	Exhaust Fans	250	250	Sealed
Bathroom	2	Downlights	0	0	Sealed

*Refer to glossary.

Retreat	7	Downlights	0	0	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

*Refer to glossary.

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

Nationwide House Energy Rating Scheme®
NatHERS® Certificate

Generated on 22 Jul 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	12, 12/17-19 Bloomfield avenue, Maribyrnong, VIC, 3032
Lot/DP	-
NCC Class*	Class 1a
Floor/all Floors Type	New Home

Plans

Main plan	TP 9.07.25
Prepared by	Jontian Group

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	103.3	suburban
Unconditioned*	33.2	**NatHERS climate zone**
Total	136.5	60 Tullamarine
Garage	20.8	

Accredited assessor

Name	Odin Solutions
Business name	Odin Solutions
Email	odinsolutions@outlook.com
Phone	0416378099
Accreditation No.	HERA10312
Assessor Accrediting Organisation	HERA
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 2
State/Territory variation	Yes

National Construction Code (NCC) requirements

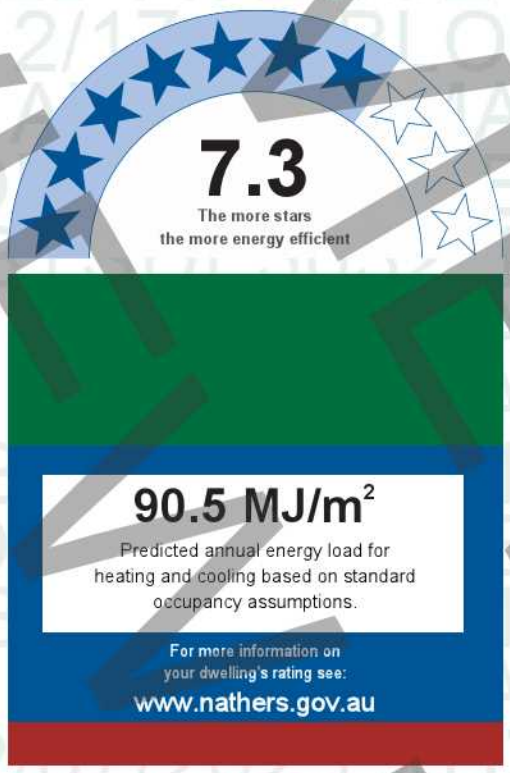
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating



Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	67.7	22.7
Load limits	95	27

Features determining load limits

Floor type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	N
Outdoor living area	N
Outdoor living area ceiling fan	N

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA – not applicable

Outdoor living area:

- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

No colours were specified, therefore the following options have been used:

Exterior wall colours have been modelled as '0.5'

Internal wall colours have been modelled as '0.5'

The roof colour has been modelled as '0.5'

The ceiling colour has been modelled as '0.5'.

IC Rated LED downlights to be used throughout.

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Garage	garage	20.8
Laundry	unconditioned	4.4
WC	unconditioned	2.2
Kitchen/ Living	kitchen	49
Bathroom	unconditioned	5.8
Bedroom 1	bedroom	12.4
Bedroom 2	bedroom	11.7
Bedroom 2 Robe	nightTime	2.9
Bedroom 1 Ensuite	nightTime	5.7
Bedroom 1 Robe	nightTime	4.2
Bedroom 3	bedroom	10.8
Retreat	living	12.1

Window and glazed door *type and performance*

Default* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
A&L-001-04 A	Al Awning SG 4Clr	5.79	0.65	0.62	0.68
A&L-013-01 A	Al Sliding Door DG 4/10/4	3.65	0.63	0.6	0.66
A&L-004-09 A	Al Awning Window DG 4/10/4	3.58	0.54	0.51	0.57

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Laundry	A&L-001-04 A	Opening 13	900	600	awning	90.0	W	No
WC	A&L-001-04 A	Opening 12	900	600	awning	90.0	W	No
Kitchen/ Living	A&L-013-01 A	Opening 7	2400	3600	sliding	30.0	E	No
Kitchen/ Living	A&L-004-09 A	Opening 8	2100	850	awning	60.0	E	No
Kitchen/ Living	A&L-004-09 A	Opening 4	2100	1800	awning	45.0	N	No
Kitchen/ Living	A&L-004-09 A	Opening 5	2100	1500	awning	45.0	N	No
Kitchen/ Living	A&L-004-09 A	Opening 11	600	1500	awning	90.0	W	No

*Refer to glossary.

Bathroom	A&L-001-04 A	Opening 10	1200	600	awning	90.0	E	No
Bedroom 1	A&L-004-09 A	Opening 1	1800	1500	awning	45.0	N	No
Bedroom 2	A&L-004-09 A	Opening 2	1800	900	awning	90.0	N	No
Bedroom 1 Ensuite	A&L-004-09 A	Opening 15	900	600	awning	90.0	W	No
Bedroom 3	A&L-004-09 A	Opening 9	1200	1800	awning	45.0	E	No
Retreat	A&L-004-09 A	Opening 17	1500	1600	awning	45.0	S	No

Roof window* *type and performance value*

Default* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2400	2800	100.0	E
Garage	2040	870	100.0	W
Kitchen/ Living	2340	870	100.0	N

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*

*Refer to glossary.

1	FR5 - Brick Veneer	0.5	Medium		No
2	Gyprock Party Wall + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5);Glass fibre batt: R2.5 (R2.5)	No
3	FR5 - Double Brick	0.5	Medium		No
4	Brick Veneer + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
5	Fibro Clad + R2.5	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	Yes
6	75mm Expanded Polystyrene Clad + R2.5	0.5	Medium	Polystyrene expanded (k = 0.039) (R1.9);Glass fibre batt: R2.5 (R2.5)	Yes

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Garage	1	2790	1932	S	0	No
Garage	2	2700	4048	S	0	No
Garage	3	2790	3475	E	2000	Yes
Garage	1	2790	745	N	0	Yes
Garage	1	2790	3475	W	0	Yes
Laundry	4	2700	1705	W	0	Yes
WC	4	2700	906	W	0	Yes
WC	4	2700	391	S	0	Yes
WC	4	2700	966	W	0	Yes
Kitchen/ Living	4	2700	7861	E	0	Yes
Kitchen/ Living	4	2700	3144	N	550	No
Kitchen/ Living	4	2700	2498	N	1050	No
Kitchen/ Living	4	2700	1499	W	0	Yes
Kitchen/ Living	4	2700	2093	N	550	Yes
Kitchen/ Living	4	2700	2551	W	0	Yes
Kitchen/ Living	4	2700	2110	S	1800	Yes
Bathroom	5	2700	2457	E	0	No
Bedroom 1	6	2700	1701	N	487	Yes
Bedroom 1	6	2700	3277	W	0	No
Bedroom 2	5	2700	3380	E	0	No
Bedroom 2	5	2700	3448	N	419	No
Bedroom 2 Robe	5	2700	2076	N	0	No
Bedroom 2 Robe	5	2700	1381	W	0	Yes
Bedroom 1 Ensuite	6	2700	2710	W	0	No
Bedroom 1 Ensuite	6	2700	2092	S	0	No

*Refer to glossary.

Bedroom 1 Robe	6	2700	2024	W	0	No
Bedroom 3	5	2700	3678	E	0	No
Bedroom 3	6	2700	3051	S	0	No
Retreat	6	2700	1975	S	0	No

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	13.9	Glass fibre batt: R2.5 (R2.5)
2	FR5 - Internal Plasterboard Stud Wall	100.2	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	10.8	Enclosed	R0.0	none
Garage	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	10	Enclosed	R0.0	none
Laundry	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	4.4	Enclosed	R0.0	Tiles
WC	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	0.2	Enclosed	R0.0	Tiles
WC	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	2	Enclosed	R0.0	Tiles
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	0.4	Enclosed	R0.0	Timber
Kitchen/ Living	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	48.6	Enclosed	R0.0	Timber
Bathroom	Timber Floor Plasterboard Under	5.8	Enclosed	R0.0	Tiles
Bedroom 1	Timber Floor Plasterboard Under	12.4	Enclosed	R0.0	Carpet
Bedroom 2	Timber Floor Plasterboard Under	11.7	Enclosed	R0.0	Carpet
Bedroom 2 Robe	Timber Floor Plasterboard Under	2.9	Enclosed	R0.0	Carpet
Bedroom 1 Ensuite	Timber Floor Plasterboard Under	1.7	Enclosed	R0.0	Tiles
Bedroom 1 Ensuite	Timber Floor Plasteboard Under + R2.5	3.9	Enclosed	R2.5	Tiles
Bedroom 1 Robe	Timber Floor Plasterboard Under	4.2	Enclosed	R0.0	Carpet
Bedroom 3	Timber Floor Plasteboard Under + R2.5	2.2	Enclosed	R2.5	Carpet
Bedroom 3	Timber Floor Plasterboard Under	5.5	Enclosed	R0.0	Carpet

*Refer to glossary.

Bedroom 3	Timber Floor Fibro Under + R2.5	3	Elevated	R2.5	Carpet
Retreat	Timber Floor Plasterboard Under	8.4	Enclosed	R0.0	Carpet
Retreat	Timber Floor Plasteboard Under + R2.5	3.7	Enclosed	R2.5	Carpet

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Garage	Timber Floor Plasteboard Under + R2.5	R2.5	No
Garage	Plasterboard	R0.0	Yes
Laundry	Timber Floor Plasterboard Under	R0.0	No
WC	Timber Floor Plasterboard Under	R0.0	No
Kitchen/ Living	Timber Floor Plasterboard Under	R0.0	No
Bathroom	Plasterboard	R5.0	Yes
Bedroom 1	Plasterboard	R5.0	Yes
Bedroom 2	Plasterboard	R5.0	Yes
Bedroom 2 Robe	Plasterboard	R5.0	Yes
Bedroom 1 Ensuite	Plasterboard	R5.0	Yes
Bedroom 1 Ensuite	Plasterboard	R5.0	Yes
Bedroom 1 Robe	Plasterboard	R5.0	Yes
Bedroom 3	Plasterboard	R5.0	Yes
Bedroom 3	Plasterboard	R5.0	Yes
Bedroom 3	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes
Retreat	Plasterboard	R5.0	Yes

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Laundry	1	Exhaust Fans	250	250	Sealed
Laundry	1	Downlights	0	0	Sealed
WC	1	Exhaust Fans	250	250	Sealed
WC	1	Downlights	0	0	Sealed
Kitchen/ Living	1	Exhaust Fans	250	250	Sealed
Kitchen/ Living	14	Downlights	0	0	Sealed
Bathroom	1	Exhaust Fans	250	250	Sealed

*Refer to glossary.

Bathroom	3	Downlights	0	0	Sealed
Bedroom 1	4	Downlights	0	0	Sealed
Bedroom 2	4	Downlights	0	0	Sealed
Bedroom 2 Robe	1	Downlights	0	0	Sealed
Bedroom 1 Ensuite	2	Downlights	0	0	Sealed
Bedroom 1 Ensuite	1	Exhaust Fans	250	250	Sealed
Bedroom 1 Robe	1	Downlights	0	0	Sealed
Bedroom 3	4	Downlights	0	0	Sealed
Retreat	6	Downlights	0	0	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

*Refer to glossary.

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

7.2 APPENDIX B: BUILT ENVIRONMENT SUSTAINABILITY SCORECARD (BESS) REPORT

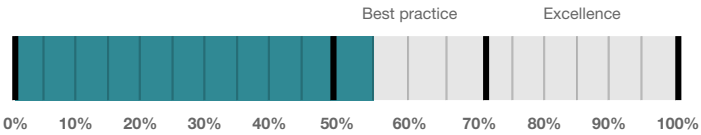
BESS Report

Built Environment Sustainability Scorecard

This BESS report outlines the sustainable design commitments of the proposed development at 17 Bloomfield Ave Maribyrnong Victoria 3032. The BESS report and accompanying documents and evidence are submitted in response to the requirement for a Sustainable Design Assessment or Sustainability Management Plan at Maribyrnong City Council.

Note that where a Sustainability Management Plan is required, the BESS report must be accompanied by a report that further demonstrates the development's potential to achieve the relevant environmental performance outcomes and documents the means by which the performance outcomes can be achieved.

Your BESS Score

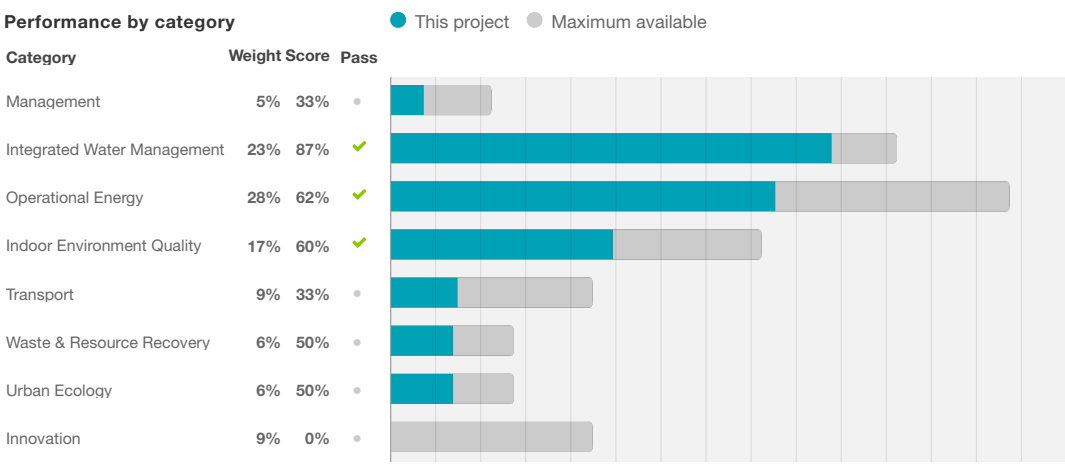


56%

Project details

Name	17-19 Bloomfield avenue, Maribyrnong
Address	17 Bloomfield Ave Maribyrnong Victoria 3032
Project ID	3E5D7693-R1
BESS Version	BESS-9
Site type	Multi dwelling (dual occupancy, townhouse, villa unit etc)
Account	odinsolutions@outlook.com
Application no.	
Site area	1,858 m²
Building floor area	1,397 m²
Date	22 July 2025
Software version	2.1.0-B.599

Performance by category



Dwellings & Non Res Spaces

Dwellings

Name	Quantity	Area	% of total area
Townhouse			
Townhouse 12	1	136 m²	9%
Townhouse 1	1	136 m²	9%
Townhouse 11	1	114 m²	8%
Townhouse 10	1	114 m²	8%
Townhouse 9	1	114 m²	8%
Townhouse 8	1	114 m²	8%
Townhouse 5	1	114 m²	8%
Townhouse 4	1	114 m²	8%
Townhouse 3	1	114 m²	8%
Townhouse 2	1	114 m²	8%
Townhouse 7	1	107 m²	7%
Townhouse 6	1	107 m²	7%
Total	**12**	**1,397 m²**	**100%**

Supporting Evidence

Shown on Floor Plans

Credit	Requirement	Response	Status
Integrated Water Management 2.1	Location of any stormwater management systems (rainwater tanks, raingardens, buffer strips)	To be printed Shown On Plans & SDA Report	✔
Integrated Water Management 3.1	Annotation: Water efficient garden details	To be printed	✔
Operational Energy 3.3	Annotation: External lighting controlled by motion sensors	To be printed	✔
Operational Energy 3.4	Location of clothes line (if proposed)	To be printed	✔
Operational Energy 4.5	Location and size of solar photovoltaic system	To be printed	✔
Indoor Environment Quality 2.2	Annotation: Dwellings designed for 'natural cross flow ventilation' (If not all dwellings, include a list of compliant dwellings)	To be printed	✔
Indoor Environment Quality 3.1	Annotation: Glazing specification (U-value, SHGC)	To be printed Shown On Plans & SDA Report	✔
Transport 1.1	Location of residential bicycle parking spaces	To be printed	✔
Waste & Resource Recovery 2.1	Location of food and garden waste facilities	To be printed	✔
Urban Ecology 2.1	Location and size of vegetated areas	To be printed	✔

Supporting Documentation

Credit	Requirement	Response	Status
Management 2.2	Preliminary NatHERS assessments		-
Integrated Water Management 2.1	STORM report or MUSIC model		-
Operational Energy 3.5	Average lighting power density and lighting type(s) to be used		-
Operational Energy 4.5	Specifications of the solar photovoltaic system(s)		-
Indoor Environment Quality 2.2	A list of dwellings with natural cross flow ventilation		-

Credit	Requirement	Response	Status
Indoor Environment Quality 3.1	Reference to floor plans or energy modelling showing the glazing specification (U-value and Solar Heat Gain Coefficient, SHGC)		-

Credit summary

Management Overall contribution 4.5%

33%

1.1 Pre-Application Meeting	0%
2.2 Thermal Performance Modelling - Multi-Dwelling Residential	100%
4.1 Building Users Guide	0%

IWM Overall contribution 22.5%

87% ✔ **Pass**

1.1 Potable Water Use	63%	✔ Achieved
2.1 Stormwater Treatment	100%	✔ Achieved
3.1 Water Efficient Landscaping	100%	

Operational Energy Overall contribution 27.5%

Minimum required 50% **62%** ✔ **Pass**

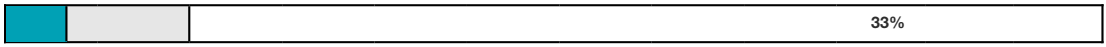
1.2 Thermal Performance Rating - Residential	9%	✔ Achieved
2.1 Greenhouse Gas Emissions	0%	
2.6 Electrification	100%	
2.7 Energy consumption	100%	
3.3 External Lighting	100%	
3.4 Clothes Drying	100%	
3.5 Internal Lighting - Houses and Townhouses	100%	
4.4 Renewable Energy Systems - Other	0%	
4.5 Solar PV - Houses and Townhouses	100%	

IEQ Overall contribution 16.5%

Minimum required 50% **60%** ✔ **Pass**

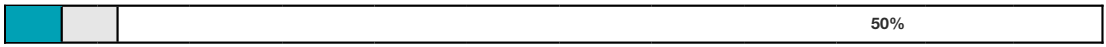
2.2 Cross Flow Ventilation	100%
3.1 Thermal comfort - Double Glazing	100%
3.2 Thermal Comfort - External Shading	0%
3.3 Thermal Comfort - Orientation	0%

Transport Overall contribution 9.0%



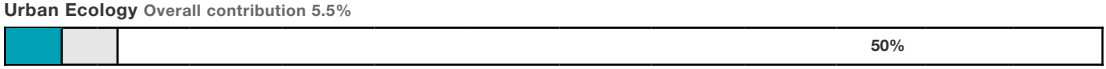
1.1 Bicycle Parking - Residential	100%
1.2 Bicycle Parking - Residential Visitor	0%
2.1 Electric Vehicle Infrastructure	0%

Waste & Resource Recovery Overall contribution 5.5%



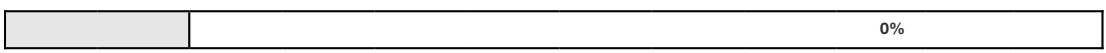
1.1 Construction Waste - Building Re-Use	0%
2.1 Operational Waste - Food & Garden Waste	100%

Urban Ecology Overall contribution 5.5%



2.1 Vegetation	100%
2.2 Green Roofs	0%
2.3 Green Walls and Facades	0%
2.4 Balconies, Courtyards & Roof terraces	0%
3.1 Food Production - Residential	0%

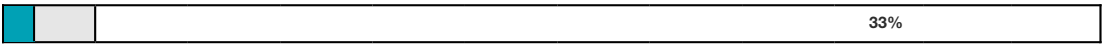
Innovation Overall contribution 9.0%



1.1 Innovation	0%

Credit breakdown

Management Overall contribution 4.5%



1.1 Pre-Application Meeting		0%
Score Contribution	This credit contributes 50% towards the category score.	
Criteria	Has an ESD professional been engaged to provide sustainability advice from schematic design to construction? AND Has the ESD professional been involved in a pre-application meeting with Council?	
Question	Criteria Achieved ?	
Project	No	

2.2 Thermal Performance Modelling - Multi-Dwelling Residential		100%
Score Contribution	This credit contributes 33.3% towards the category score.	
Criteria	Have preliminary NatHERS ratings been undertaken for all thermally unique dwellings?	
Question	Criteria Achieved ?	
Townhouse	Yes	

4.1 Building Users Guide		0%
Score Contribution	This credit contributes 16.7% towards the category score.	
Criteria	Will a building users guide be produced and issued to occupants?	
Question	Criteria Achieved ?	
Project	No	

IWM Overall contribution 22.5%

87% ✔ Pass

Do you have a reticulated third pipe or an on-site water recycling system?:	No
Are you installing a swimming pool?:	No

Stormwater profile

Which stormwater modelling software are you using?:	Melbourne Water STORM tool
STORM score achieved:	118
Flow:	-
Total Suspended Solids:	-
Total Phosphorus:	-
Total Nitrogen:	-

Rainwater tank profile

What is the total roof area connected to the rainwater tank?:	
Rainwater Tank Dwellings 1-3	234 m^2
Rainwater Tank Dwellings 4-6	219 m^2
Rainwater Tank Dwellings 7-9	219 m^2
Rainwater Tank Dwellings 10-12	234 m^2
Tank Size:	
Rainwater Tank Dwellings 1-3	6,000 Litres
Rainwater Tank Dwellings 4-6	6,000 Litres
Rainwater Tank Dwellings 7-9	6,000 Litres
Rainwater Tank Dwellings 10-12	6,000 Litres
Irrigation area connected to tank:	
Rainwater Tank Dwellings 1-3	-
Rainwater Tank Dwellings 4-6	-
Rainwater Tank Dwellings 7-9	-
Rainwater Tank Dwellings 10-12	-
Is connected irrigation area a water efficient garden?:	
Rainwater Tank Dwellings 1-3	No
Rainwater Tank Dwellings 4-6	No
Rainwater Tank Dwellings 7-9	No
Rainwater Tank Dwellings 10-12	No
Other external water demand connected to tank?:	
Rainwater Tank Dwellings 1-3	-
Rainwater Tank Dwellings 4-6	-
Rainwater Tank Dwellings 7-9	-
Rainwater Tank Dwellings 10-12	-

Fixtures, fittings & connections profile

Showerhead: All	4 Star WELS (>= 6.0 but <= 7.5)
Bath: All	Scope out
Kitchen Taps: All	>= 5 Star WELS rating

Bathroom Taps: All	>= 5 Star WELS rating
Dishwashers: All	Default or unrated
WC: All	>= 4 Star WELS rating
Urinals: All	Scope out
Washing Machine Water Efficiency: All	Occupant to Install
Which non-potable water source is the dwelling/space connected to?:	
Townhouse 1 Townhouse 2 Townhouse 3	232001
Townhouse 4 Townhouse 5 Townhouse 6	232002
Townhouse 7 Townhouse 8 Townhouse 9	232003
Townhouse 10 Townhouse 11 Townhouse 12	232004
Non-potable water source connected to Toilets: All	Yes
Non-potable water source connected to Laundry (washing machine): All	Yes
Non-potable water source connected to Hot Water System: All	No

1.1 Potable Water Use 63% ✔ Achieved

Score Contribution	This credit contributes 33.3% towards the category score.
Criteria	What is the reduction in total potable water use due to efficient fixtures, appliances, rainwater use and recycled water use? To achieve points in this credit there must be >25% potable water reduction.
Output	Reference
Project	1891 kL
Output	Proposed (excluding rainwater and recycled water use)
Project	1541 kL
Output	Proposed (including rainwater and recycled water use)
Project	1092 kL
Output	% Reduction in Potable Water Consumption
Project	42 %
Output	% of connected demand met by rainwater
Project	85 %
Output	How often does the tank overflow?
Project	Never / Rarely
Output	Opportunity for additional rainwater connection
Project	380 kL

2.1 Stormwater Treatment 100% ✔ Achieved

Score Contribution	This credit contributes 60% towards the category score.
Criteria	Has best practice stormwater management been demonstrated?
Output	Min STORM Score
Project	100
Output	STORM Score
Project	118

3.1 Water Efficient Landscaping	100%

Score Contribution	This credit contributes 6.7% towards the category score.
Criteria	Will water efficient landscaping be installed?
Question	Criteria Achieved ?
Project	Yes

Operational Energy Overall contribution 27.5%

		Minimum required 50%	**62%**	✔ **Pass**

Are you installing any renewable energy system(s) (other than solar photovoltaic)?:	Yes
Energy Supply:	All-electric
Solar Photovoltaic system profile	
System Size (lesser of inverter and panel capacity):	
Solar Photovoltaic system 1	2.0 kW peak
Solar Photovoltaic system 2	2.0 kW peak
Solar Photovoltaic system 3	2.0 kW peak
Solar Photovoltaic system 4	2.0 kW peak
Solar Photovoltaic system 5	2.0 kW peak
Solar Photovoltaic system 6	2.0 kW peak
Solar Photovoltaic system 7	2.0 kW peak
Solar Photovoltaic system 8	2.0 kW peak
Solar Photovoltaic system 9	2.0 kW peak
Solar Photovoltaic system 10	2.0 kW peak
Solar Photovoltaic system 11	2.0 kW peak
Solar Photovoltaic system 12	2.0 kW peak
Orientation (which way is the system facing)?:	
Solar Photovoltaic system 1	North
Solar Photovoltaic system 2	North
Solar Photovoltaic system 3	North
Solar Photovoltaic system 4	North
Solar Photovoltaic system 5	North
Solar Photovoltaic system 6	North
Solar Photovoltaic system 7	North
Solar Photovoltaic system 8	North
Solar Photovoltaic system 9	North
Solar Photovoltaic system 10	North
Solar Photovoltaic system 11	North
Solar Photovoltaic system 12	North

Inclination (angle from horizontal):	
Solar Photovoltaic system 1	3.0 Angle (degrees)
Solar Photovoltaic system 2	3.0 Angle (degrees)
Solar Photovoltaic system 3	3.0 Angle (degrees)
Solar Photovoltaic system 4	3.0 Angle (degrees)
Solar Photovoltaic system 5	3.0 Angle (degrees)
Solar Photovoltaic system 6	3.0 Angle (degrees)
Solar Photovoltaic system 7	3.0 Angle (degrees)
Solar Photovoltaic system 8	3.0 Angle (degrees)
Solar Photovoltaic system 9	3.0 Angle (degrees)
Solar Photovoltaic system 10	3.0 Angle (degrees)
Solar Photovoltaic system 11	3.0 Angle (degrees)
Solar Photovoltaic system 12	3.0 Angle (degrees)

Dwellings profile

Below the floor is: All	Ground or Carpark
Above the ceiling is: All	Outside
Exposed sides:	
Townhouse 1 Townhouse 6 Townhouse 7 Townhouse 12	3
Townhouse 2 Townhouse 3 Townhouse 4 Townhouse 5 Townhouse 8 Townhouse 9 Townhouse 10 Townhouse 11	2
NatHERS Annual Energy Loads - Heat:	
Townhouse 1	67.6 MJ/sqm
Townhouse 2	80.4 MJ/sqm
Townhouse 3	78.6 MJ/sqm
Townhouse 4 Townhouse 10	74.0 MJ/sqm
Townhouse 5 Townhouse 8	76.1 MJ/sqm
Townhouse 6	74.6 MJ/sqm
Townhouse 7	76.4 MJ/sqm
Townhouse 9 Townhouse 11	76.0 MJ/sqm
Townhouse 12	67.7 MJ/sqm

NatHERS Annual Energy Loads - Cool:	
Townhouse 1	24.1 MJ/sqm
Townhouse 2	18.4 MJ/sqm
Townhouse 3	19.3 MJ/sqm
Townhouse 4	20.0 MJ/sqm
Townhouse 5	20.6 MJ/sqm
Townhouse 6	23.8 MJ/sqm
Townhouse 7	21.6 MJ/sqm
Townhouse 8 Townhouse 11	22.9 MJ/sqm
Townhouse 9	18.7 MJ/sqm
Townhouse 10 Townhouse 12	22.7 MJ/sqm

NatHERS star rating:	
Townhouse 1 Townhouse 4	7.2
Townhouse 2 Townhouse 3 Townhouse 6 Townhouse 7 Townhouse 8 Townhouse 11	7.0
Townhouse 5 Townhouse 9 Townhouse 10	7.1
Townhouse 12	7.3
Type of Heating System: All	Reverse cycle space
Heating System Efficiency: All	4 Stars (2011 MEPS)
Type of Cooling System: All	Refrigerative space
Cooling System Efficiency: All	4 Stars (2011 MEPS)
Type of Hot Water System: All	Electric Instantaneous
% Contribution from solar hot water system: All	0 %
Clothes Line: All	Private outdoor clothesline
Clothes Dryer: All	Occupant to install

1.2 Thermal Performance Rating - Residential	9%	✔ Achieved

Score Contribution	This credit contributes 16.7% towards the category score.
Criteria	What is the average NatHERS rating?
Output	Average NATHERS Rating (Weighted)
Townhouse	7.1 Stars

2.1 Greenhouse Gas Emissions	0%

Score Contribution	This credit contributes 16.7% towards the category score.
Criteria	What is the % reduction in annual greenhouse gas emissions against the benchmark?
Output	Reference Building with Reference Services (BCA only)
Townhouse	30,267 kg CO2
Output	Proposed Building with Proposed Services (Actual Building)
Townhouse	31,529 kg CO2
Output	% Reduction in GHG Emissions
Townhouse	-5 %

2.6 Electrification 100%

Score Contribution	This credit contributes 16.7% towards the category score.
Criteria	Is the development all-electric?
Question	Criteria Achieved?
Project	Yes

2.7 Energy consumption 100%

Score Contribution	This credit contributes 22.2% towards the category score.
Criteria	What is the % reduction in annual energy consumption against the benchmark?
Output	Reference Building with Reference Services (BCA only)
Townhouse	264,883 MJ
Output	Proposed Building with Proposed Services (Actual Building)
Townhouse	143,678 MJ
Output	% Reduction in total energy
Townhouse	45 %

3.3 External Lighting 100%

Score Contribution	This credit contributes 2.8% towards the category score.
Criteria	Is the external lighting controlled by a motion detector?
Question	Criteria Achieved ?
Townhouse	Yes

3.4 Clothes Drying 100%

Score Contribution	This credit contributes 5.6% towards the category score.
Criteria	What is the % reduction in annual energy consumption (gas and electricity) from a combination of clothes lines and efficient driers against the benchmark?
Output	Reference
Townhouse	6,089 kWh
Output	Proposed
Townhouse	1,218 kWh
Output	Improvement
Townhouse	80 %

3.5 Internal Lighting - Houses and Townhouses 100%

Score Contribution	This credit contributes 2.8% towards the category score.
Criteria	Does the development achieve a maximum illumination power density of 4W/sqm or less?
Question	Criteria Achieved?
Townhouse	Yes

4.4 Renewable Energy Systems - Other	0%

Score Contribution	This credit contributes 5.6% towards the category score.
Criteria	Does another form of renewable energy (not solar) provide 5% of the estimated energy consumption of the building class it supplies?
Question	Other Renewable Energy - Energy Generation per year
Townhouse	-

4.5 Solar PV - Houses and Townhouses	100%

Score Contribution	This credit contributes 11.1% towards the category score.
Criteria	What % of the estimated energy consumption of the building class it supplies does the solar power system provide?
Output	Solar Power - Energy Generation per year
Townhouse	27,552 kWh
Output	% of Building's Energy
Townhouse	69 %

IEQ **Overall contribution 16.5%**

		Minimum required 50%	60%	✔ Pass

2.2 Cross Flow Ventilation		100%
Score Contribution	This credit contributes 20% towards the category score.	
Criteria	Are all habitable rooms designed to achieve natural cross flow ventilation?	
Question	Criteria Achieved ?	
Townhouse	Yes	
3.1 Thermal comfort - Double Glazing		100%
Score Contribution	This credit contributes 40% towards the category score.	
Criteria	Is double glazing (or better) used to all habitable areas?	
Question	Criteria Achieved ?	
Townhouse	Yes	
3.2 Thermal Comfort - External Shading		0%
Score Contribution	This credit contributes 20% towards the category score.	
Criteria	Is appropriate external shading provided to east, west and north facing glazing?	
Question	Criteria Achieved ?	
Townhouse	No	
3.3 Thermal Comfort - Orientation		0%
Score Contribution	This credit contributes 20% towards the category score.	
Criteria	Are at least 50% of main living areas orientated to the north?	
Question	Criteria Achieved ?	
Townhouse	No	

Transport Overall contribution 9.0%

33%

1.1 Bicycle Parking - Residential	100%
Score Contribution	This credit contributes 33.3% towards the category score.
Criteria	How many secure and undercover bicycle spaces are there for residents?
Question	Bicycle Spaces Provided ?
Townhouse	12
Output	Min Bicycle Spaces Required
Townhouse	12

1.2 Bicycle Parking - Residential Visitor	0%
Score Contribution	This credit contributes 33.3% towards the category score.
Criteria	How many secure bicycle spaces are there for visitors?
Question	Visitor Bicycle Spaces Provided ?
Townhouse	0

2.1 Electric Vehicle Infrastructure	0%
Score Contribution	This credit contributes 33.3% towards the category score.
Criteria	Are facilities provided for the charging of electric vehicles?
Question	Criteria Achieved ?
Project	No

Waste & Resource Recovery Overall contribution 5.5%

50%

1.1 Construction Waste - Building Re-Use	0%
Score Contribution	This credit contributes 50% towards the category score.
Criteria	If the development is on a site that has been previously developed, has at least 30% of the existing building been re-used?
Question	Criteria Achieved ?
Project	No

2.1 Operational Waste - Food & Garden Waste	100%
Score Contribution	This credit contributes 50% towards the category score.
Criteria	Are facilities provided for on-site management of food and garden waste?
Question	Criteria Achieved ?
Project	Yes

Urban Ecology Overall contribution 5.5%

50%

2.1 Vegetation	100%
Score Contribution	This credit contributes 50% towards the category score.
Criteria	How much of the site is covered with vegetation, expressed as a percentage of the total site area?
Question	Percentage Achieved ?
Project	35 %

2.2 Green Roofs	0%
Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	Does the development incorporate a green roof?
Question	Criteria Achieved ?
Project	No

2.3 Green Walls and Facades	0%
Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	Does the development incorporate a green wall or green façade?
Question	Criteria Achieved ?
Project	No

2.4 Balconies, Courtyards & Roof terraces	0%
Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	Is there a tap and floor waste on every balcony and courtyard (including any roof terraces)?
Question	Criteria Achieved ?
Townhouse	No

3.1 Food Production - Residential	0%
Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	What area of space per resident is dedicated to food production?
Question	Food Production Area
Townhouse	-
Output	Min Food Production Area
Townhouse	8 m^2

Innovation Overall contribution 9.0%

0%

1.1 Innovation	0%
Score Contribution	This credit contributes 100% towards the category score.
Criteria	What percentage of the Innovation points have been claimed (10 points maximum)?

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7.3 APPENDIX C: WSUD MAINTENANCE & INSTALLATION

INSTALLATION

RAINWATER TANKS

The rainwater tanks will be installed above ground. Its manufacturer or material has not been nominated. It will be installed with a mesh insect cover over the inlet pipe to ensure the tank does not become a breeding ground for pests. Mesh needs to be installed over overflow pipes and if a man hole is present, it needs to be properly sealed.

Please refer to the architectural drawings for the location of the rainwater tanks.

PUMPS

The pumps required either to divert the stormwater runoff to the rainwater tank or to distribute the collected water to the endless (toilets) will be required to be installed as per chosen manufacturer specifications.

INSPECTION REQUIREMENTS

RAINWATER TANKS

Inspections of roof areas and gutters leading to the tanks should take place every 6 months. Rainwater in the tanks should be checked every 6 months for mosquito infestation.

The rainwater tank should be examined every 2 years for sludge build up. Ensure the monitoring system (be it digital or a simple float system) is functioning properly by checking the water level in the rainwater tanks.

PUMPS

The pumps required will be routinely inspected by listening for the day-to-day operation of the pumps. Unusual noise or no noise should be investigated. Inspection should occur as per the chosen manufacturer specifications.

CLEAR OUT/ MAINTENANCE PROCEDURE

RAINWATER TANK, ROOF & GUTTERS

Rainwater tanks will require the roof and gutters onsite to be maintained; gutters should be checked, maintained and cleaned every six months to avoid blockages from occurring. Any trees onsite should be maintained every 6 months with branches overhanging the roof removed.

Water ponding in gutters should be avoided as this provides a breeding ground for mosquitoes; tanks should also not become breeding grounds for mosquitoes. If mosquitoes are detected in the tank remedial steps need to occur to prevent breeding. If mosquitoes or other insects are found in rainwater tanks, the point of entry should be located and repaired. As well as preventing further access, this will prevent the escape of emerging adults. Gutters should be inspected to ensure they do not contain ponded water, and be cleaned out if necessary.

Rainwater tanks should be checked by regular maintenance person every 3-6 months to ensure that connection to the building is maintained and there are no blockages.

PUMPS

Maintenance should occur as per chosen manufacturer specifications. All strainers and filters should be cleaned every 6 months. Good quality pumps should provide trouble free service for up to 10 years.

COMMISSIONING

RAINWATER TANK

All rainwater tanks should be washed and flushed out prior to use. All inlets and outlets should be correctly sealed to prevent insects entering. Connection to all toilets in the development should be tested (dye test or equivalent).

Please note if new roof coating or paint is to be installed then the first few run-offs after installation need to be discarded.

PUMPS

Commissioning should occur as per the chosen manufacturer specifications.

SUMMARY - Inspection and Care Schedule (Occupants will be responsible for each maintenance task)

Component	Key Activities	Typical Frequency
Gutters and Downpipes	Safely inspect gutters for accumulated debris and clean. Engage a contractor to remove debris and clean gutters if required. Ensure surrounding vegetation is maintained to reduce debris.	6 months
Roof	Arrange roof cleaning should water quality decline to unacceptable quality.	12 months
First Flush Diverter	Inspect for blockages within diverter and remove any build-up of litter/leaves etc.	6 months
Filtration System	Inspect and clean filtration system to remove excess build-up of matter on filter medium.	6 months
Tank inlets/ mesh cover	Inspect for obstructions and remove / clean accordingly.	12 months
Tank volume	Inspect for any holes or leaks. Immediately attend to repair.	12 months
Water Quality	Test kits readily available from plumbing supplies or home maintenance stores. Test water and if quality is substandard, inspect water harvesting treatment stream.	12 months
Internal inspection Tank Clean	Engage contractor to undertake full inspection and clean according to individual tank needs.	As needed if water quality is poor
Pump/ Mains backup device	Examine pumps/mains back up devices to ensure they are operating correctly. Perform routine maintenance and servicing of pump equipment as recommended according to manufacturer.	As recommended by manufacturer
Pipes and taps	Inspect pipes/taps for leaks. Repair or replace as required.	12 months
Overflow	Check for blockages of overflow system to ensure a clear and unobstructed connection to stormwater network.	12 months